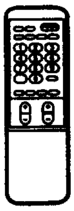
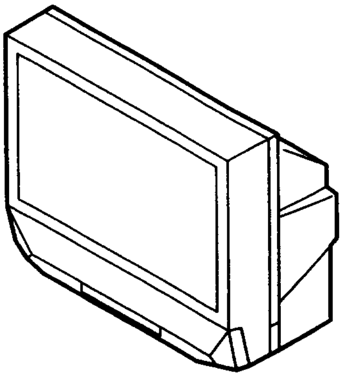
SERVICE MANUAL

RG-1 CHASSIS

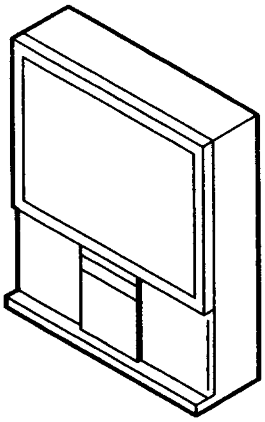
MODEL	COMMANDER	DEST.	CHASSIS NO.
KP-E41MH11	RM-901	ME	SCC-K61A-A
KP-E41MH11	RM-901	Hong Kong	SCC-K62A-A
KP-E41MN11	RM-901	GE	SCC-K63A-A
KP-E41SN11	RM-901	Austrarian	SCC-K64B-A

MODEL	COMMANDER	DEST.	CHASSIS NO.
KP-E53MH11	RM-901	ME	SCC-K61B-A
KP-E53MH11	RM-901	Hong Kong	SCC-K62B-A
KP-E53MN11	RM-901	GE	SCC-K63B-A
KP-E53SN11	RM-901	Austrarian	SCC-K64A-A





KP-E41MH11/E41MN11/E41SN11



KP-E53MH11/E53MN11/E53SN11

MICROFILM

※ Please file according to model size.................. ■

[✓ 41] 53

PROJECTION TV

SONY®

SPECIFICATIONS

Projection system
3 picture tubes, 3 lenses, horizontal in-line system

Picture tube 7 inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquidcooling system

Projection lenses High performance, large-diameter hybrid lens F1.0

Screen size 41 inches (KP-E41)
53 inches (KP-E53)

Television system
B/G, I, D/K, M

Color system PAL, PAL 60, SECAM, $\text{NTSC}_{4.43}$, $\text{NTSC}_{3.58}$

Channel coverage
See "Channel coverage" at the bottom

Antenna 75 ohm external antenna terminal

Audio output (Speaker)
15 W × 2

Number of terminals

Video Input: 4, Output: 1

Audio Input: 4, Output: 1

S1 Video/S Video
Input: 4, Output: 1
Y: 1 Vp-p, 75 ohms, unbalanced, sync negative,
C: 0.286 Vp-p, 75 ohms

Power requirement
110 – 240 V AC, 50/ 0 Hz

Power consumption
175 W

Dimensions (w/h/d)
951 × 991 × 588 mm (KP-E41)
1164 × 1335 × 650 mm (KP-E53)

Mass Approx. 56 kg (KP-E41)
Approx. 89 kg (KP-E53)

Supplied accessories
Remote commander RM-901 (1)
Size R6 (AA) battery (1)

Optional accessory
AV rack SU-E41 (KP-E41)
AV rack SU-E53 (KP-E53)

Design and specifications are subject to change without notice.

Channel coverage

M E/ASIA/CATV W EURO

Receivable channel	Channel display
E-2 to E-12	C02 to C12
E-21 to E-69	C21 to C69
S-01 to S-03	S42 to S44
S-1 to S-41	S01 to S41
Indonesia	
1A	C01
2 to 11	C03 to C12
Morocco	
M-4 to M-7	C70 to C73
M-8 to M-10	C08 to C10
New Zealand	
1	C01
2 to 11	C03 to C12
27 to 62	C27 to C62

HK/UK

Receivable channel	Channel display
Hong Kong, United Kingdom	
B-21 to B-68	C21 to C68
Ireland	
A to J	C01 to C09
South Africa	
4 to 13	C04 to C13
21 to 68	C21 to C68

AUSTRALIA

Receivable channel	Channel display
Australia	
AS-0 to AS-12	C00 to C12
AS-5A, AS-9A	C13, C14
AS-28 to AS-69	C28 to C69
New Zealand	
1	C00
2 to 3	C01 to C02
4 to 7	C06 to C09
8	C14
9 to 11	C10 to C12

CHINA/E EURO

Receivable channel	Channel display
China	
C-1 to C-2	C01 to C02
C-3	C13
C-4	C03
C-5	C04
C-6	C14
C-7 to C-12	C06 to C11
C-13 to C-24	C21 to C32
C-25 to C-47	C38 to C60
C-48 to C-57	C61 to C70
Z-1 to Z-39	S01 to S39
Eastern Europe	
R-1 to R-12	C01 to C12
R-21 to R-60	C21 to C60

AMERICA/CATV AMERICA

Receivable channel	Channel display
2 to 79	C02 to C79
A-1	S99
A-2	S98
A-3	S97
A-4	S96
A-5	S95
A-6	S06
A-7	S05
A-8	S01
A to W	S14 to S36
AA to CCC	S37 to S65

JAPAN

Receivable channel	Channel display
J-1 to J-62	C01 to C62
C-13 to C-32	C80 to C99

SECTION 1
GENERAL

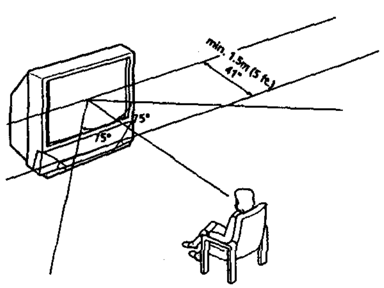
The operation instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Installing the projection TV

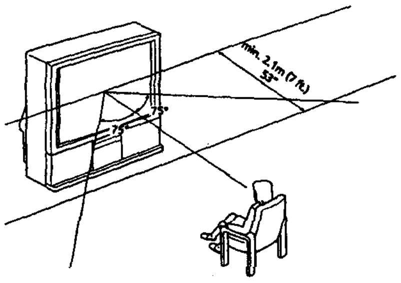
For the best picture quality, install the projection TV within the areas shown below.

Optimum viewing area (Horizontal)

KP-E41

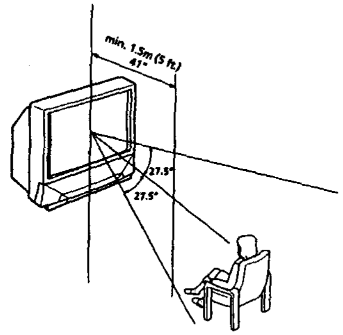

min. 1.5m (5 ft.)
41"
75°
75°

KP-E53

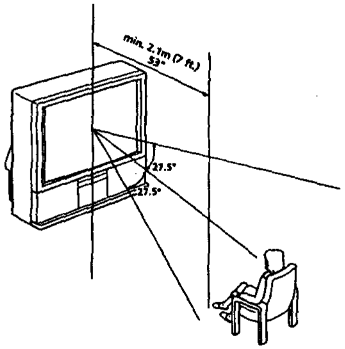

min. 2.1m (7 ft.)
53"
75°
75°

Optimum viewing area (Vertical)

KP-E41

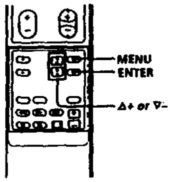

min. 1.5m (5 ft.)
41"
27.5°
27.5°

KP-E53


min. 2.1m (7 ft.)
53"
27.5°
27.5°

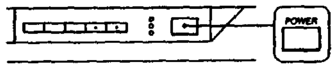
Changing the menu language

If you prefer Chinese to English, you can change the menu language. You can use the buttons on both the remote commander and the projection TV.

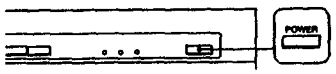

MENU
ENTER
Δ+ or ∇–

1 Press POWER on the projection TV.

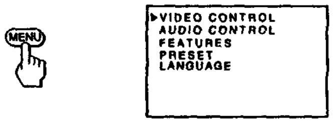
KP-E41



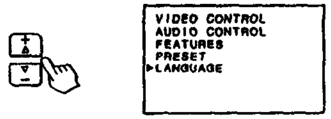
KP-E53



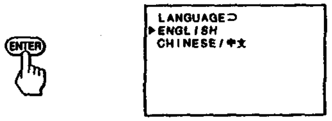
2 Press MENU.


MENU
▶VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
LANGUAGE

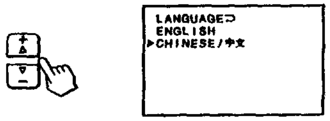
3 Press Δ + or ∇ – to move the cursor (▶) to LANGUAGE.


VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
▶LANGUAGE

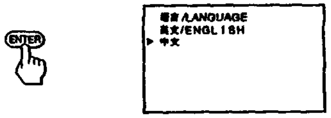
4 Press ENTER.


ENTER
LANGUAGE⊃
▶ENGLISH
CHINESE/中文

5 Press Δ + or ∇ – to select CHINESE.


LANGUAGE⊃
ENGLISH
▶CHINESE/中文

6 Press ENTER.


ENTER
語言/LANGUAGE
英文/ENGLISH
▶ 中文

7 Press MENU to return to the normal screen.

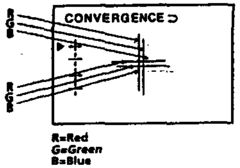
Adjusting the convergence (CONVERGENCE)

Before you use the projection TV, adjust convergence. The projection tube image appears on the screen in three layers (red, green and blue). If they do not converge, the color is poor and the picture blurs. To correct this, adjust convergence.
After 20-30 minutes of turning on the power, adjust convergence.

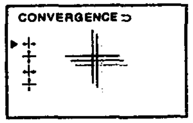
1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to FEATURES and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to CONVERGENCE and press ENTER.
The CONVERGENCE adjustment screen appears.

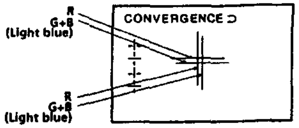

R
G
B
CONVERGENCE ⊃
R
G
B
R=Red
G=Green
B=Blue

4 Press Δ + or ∇ – to move the cursor (▶) to the symbol showing the line you want to adjust, and press ENTER.


CONVERGENCE ⊃

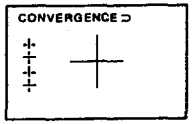
+: Red vertical line (left/right adjustment)
+: Red horizontal line (up/down adjustment)
+: Blue vertical line (left/right adjustment)
+: Blue horizontal line (up/down adjustment)

5 Press Δ + or ∇ – to move the line until it converges with the center green line, and press ENTER.


R
G+B
(Light blue)
CONVERGENCE ⊃
R
G+B
(Light blue)

To move up/right, press Δ +.
To move down/left, press ∇ –.

6 Repeat step 4 and 5 to adjust the other lines until all three lines converge and are *seen as a white cross.*


CONVERGENCE ⊃

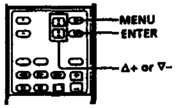
7 Press MENU to return to the normal screen.

Presetting channels

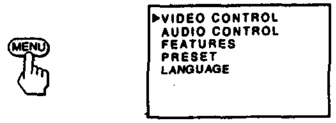
You can preset TV channels easily by storing all the receivable channels automatically. You can also preset channels manually or skip program positions (page 23). You can preset channels using the buttons on the projection TV as well as those on the remote commander.

Presetting channels automatically

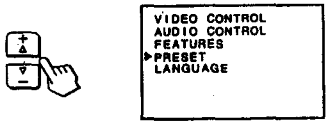
You can preset up to 100 TV channels in numerical sequence from program position 1.


MENU
ENTER
Δ+ or ∇–

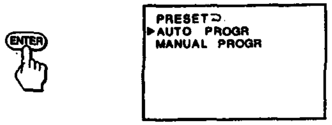
1 Press MENU.


MENU
▶VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
LANGUAGE

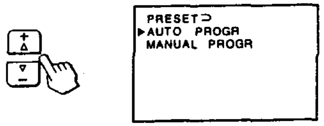
2 Press Δ + or ∇ – to move the cursor (▶) to PRESET.


+ Δ
∇ –
VIDEO CONTROL
AUDIO CONTROL
FEATURES
▶PRESET
LANGUAGE

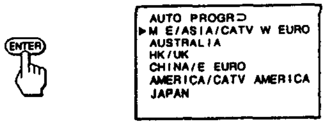
3 Press ENTER.


ENTER
PRESET ⊃
▶AUTO PROGR
MANUAL PROGR

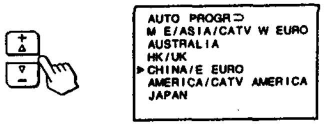
4 Press Δ + or ∇ – to select AUTO PROGR.


+ Δ
∇ –
PRESET ⊃
▶AUTO PROGR
MANUAL PROGR

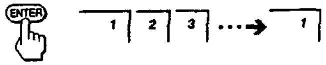
5 Press ENTER.


ENTER
AUTO PROGR ⊃
▶M E/ASIA/CATV W EURO
AUSTRALIA
HK/UK
CHINA/E EURO
AMERICA/CATV AMERICA
JAPAN

6 Press Δ + or ∇ – to select your area (channel system).
For the areas allocated in each channel system, see "Channel allocation" on page 27.

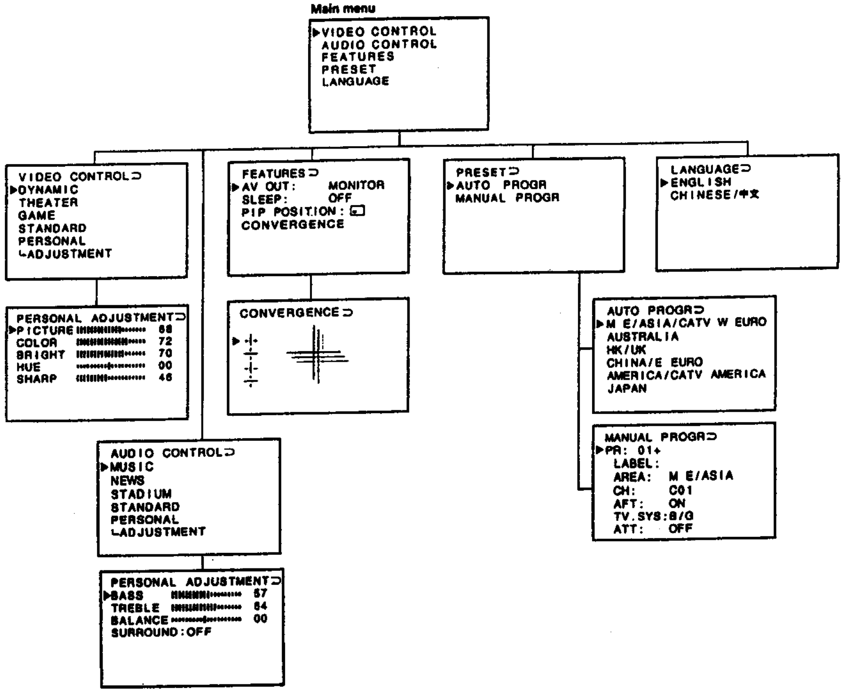

+ Δ
∇ –
AUTO PROGR ⊃
M E/ASIA/CATV W EURO
AUSTRALIA
HK/UK
▶CHINA/E EURO
AMERICA/CATV AMERICA
JAPAN

7 Press ENTER.
Presetting starts from program 1.



Introducing the menu

You can preset channels and set picture quality, sound, and other settings using the on-screen menus. You can use the buttons on both remote commander and the projection TV to operate the menus.


Main menu
▶VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
LANGUAGE
VIDEO CONTROL⊃
▶DYNAMIC
THEATER
GAME
STANDARD
PERSONAL
└ADJUSTMENT
PERSONAL ADJUSTMENT⊃
▶PICTURE 68
COLOR 72
BRIGHT 70
HUE 00
SHARP 46
FEATURES⊃
▶AV OUT: MONITOR
SLEEP: OFF
PIP POSITION:
CONVERGENCE
CONVERGENCE⊃
PRESET⊃
▶AUTO PROGR
MANUAL PROGR
LANGUAGE⊃
▶ENGLISH
CHINESE/中文
AUTO PROGR⊃
▶M E/ASIA/CATV W EURO
AUSTRALIA
HK/UK
CHINA/E EURO
AMERICA/CATV AMERICA
JAPAN
MANUAL PROGR⊃
▶PR: 01+
LABEL:
AREA: M E/ASIA
CH: C01
AFT: ON
TV.SYS:B/G
ATT: OFF
AUDIO CONTROL⊃
▶MUSIC
NEWS
STADIUM
STANDARD
PERSONAL
└ADJUSTMENT
PERSONAL ADJUSTMENT⊃
▶BASS 57
TREBLE 64
BALANCE 00
SURROUND: OFF

Getting back to the previous menu

Press △ + or ▽ – to move the cursor (▶) to the first line (⊃) of each menu (except for the main menu), and press ENTER.

Cancelling the menu screen

Press MENU.

Note

- If more than 60 seconds elapse after you press a button, the menu screen disappears automatically.

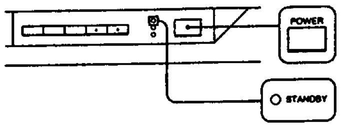
Watching the TV

1 Select the TV program you want to watch.

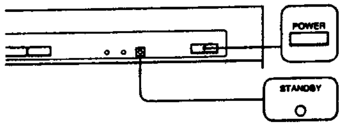
Press the number buttons or PROGR +/–. The projection TV turns on automatically and the selected program appears.

When the STANDBY indicator on the front of the projection TV is not lit, press POWER on the projection TV, and select the program position.

KP-E41

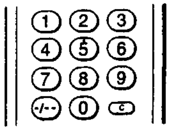

POWER
STANDBY

KP-E53


POWER
STANDBY

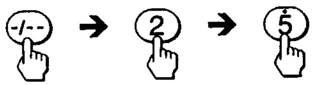
To select a program position directly

Press the number buttons.


1
2
3
4
5
6
7
8
9
-/--
0
C

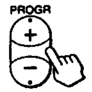
To select a two-digit program position, press "-/--" before the number buttons.

For example, to select program position 25, press "-/--" and then "2" and "5."



To scan through program positions

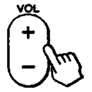
Press PROGR +/– until the program position you want appears.



To select a channel directly

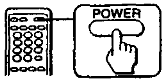
Press C (once for VHF/UHF channels, twice for cable TV channels), then press the number buttons (two-digit number for VHF/UHF channels, three-digit number for cable TV channels). For example, to select the VHF/UHF channel 4, press C, 0 then 4.

2 Press VOL +/– to adjust the volume.



Switching off the projection TV

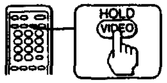
To switch off the projection TV temporarily, press POWER on the remote commander.
The STANDBY indicator lights.

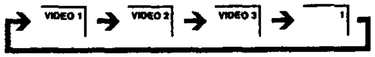


To switch off the projection TV completely, press POWER on the TV.

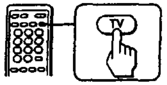
Watching the video input

Press VIDEO/HOLD.



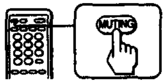


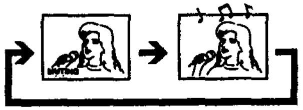
To watch projection TV, press TV, the number buttons or PROGR +/–.



Muting the sound

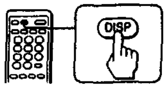
Press MUTING.

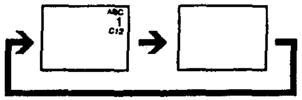




Displaying on-screen information

Press DISP.





Note

- When you press DISP, the on-screen display shows the picture and sound settings as well, all of which disappear after three seconds.

Setting the Sleep Timer

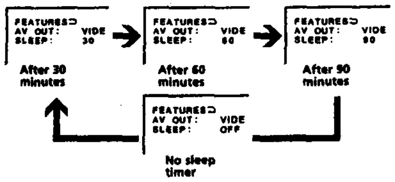
You can set the projection TV to turn off automatically after the period of time you set.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to FEATURES, and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to SLEEP, and press ENTER.

4 Press Δ + or ∇ – until the time (in minutes) *you want appears.*



```
FEATURES⊃
AV OUT:      VIDE
SLEEP:       30
```

After 30 minutes

```
FEATURES⊃
AV OUT:      VIDE
SLEEP:       60
```

After 60 minutes

```
FEATURES⊃
AV OUT:      VIDE
SLEEP:       90
```

After 90 minutes

```
FEATURES⊃
AV OUT:      VIDE
SLEEP:       OFF
```

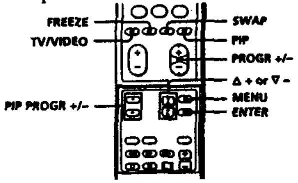
No sleep timer

5 Press ENTER.

To cancel the Sleep Timer, select OFF, or turn the projection TV off.

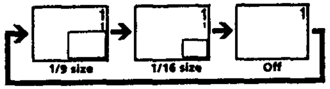
Using the Picture-in-Picture features

You can display a Picture-in-Picture (PIP) screen (small picture) within the main picture of a TV program or a video input.



Displaying PIP

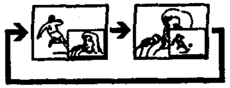
Press PIP.



Selecting a TV program or video input in the PIP screen
To select a TV program, press PIP PROGR +/– (yellow buttons).
To select a video input, press TV/VIDEO.

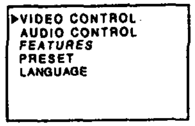
Swapping pictures between the main and PIP screens

Press SWAP.



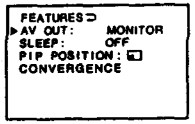
Changing the position of the PIP screen

1 Press MENU.



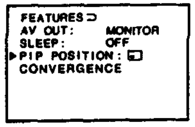
```
▶VIDEO CONTROL
 AUDIO CONTROL
 FEATURES
 PRESET
 LANGUAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to FEATURES, and press ENTER.



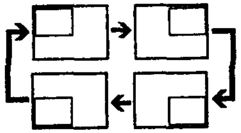
```
 FEATURES⊃
▶AV OUT:        MONITOR
 SLEEP:         OFF
 PIP POSITION : ◰
 CONVERGENCE
```

3 Press Δ + or ∇ – to move the cursor (▶) to PIP POSITION, and press ENTER.



```
 FEATURES⊃
 AV OUT:        MONITOR
 SLEEP:         OFF
▶PIP POSITION : ◰
 CONVERGENCE
```

4 Press Δ + or ∇ – to select the position you want.
Pressing Δ + changes the position as shown below.
Pressing ∇ – changes the position in reverse order.



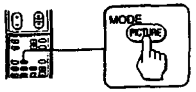
Freezing the PIP screen

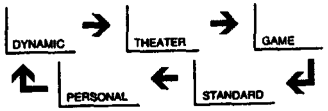
Press FREEZE.
To restore the normal picture, press FREEZE again.

Selecting the picture mode

You can select the picture mode using the menu as well as the PICTURE MODE button on the remote commander. Select VIDEO CONTROL from the main menu, then select the desired mode.

Press PICTURE MODE until the mode you want appears on the screen.





Select	To
DYNAMIC	Display more contrast picture
THEATER	Display darker and finely detailed picture suitable for movies
GAME	Display softer picture suitable for the video games
STANDARD	Display normal contrast picture
PERSONAL	Display the picture that is adjusted using ADJUSTMENT in the VIDEO CONTROL menu

Viewing a video game screen

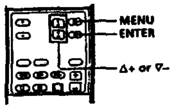
Press PICTURE MODE until the GAME mode appears on the screen.
The screen changes to the optimum mode for video games with soft picture.

If the fixed (non-moving) pattern is on the screen for long periods of time
Keep the picture functions at low settings (see "Adjusting the picture setting" on page 14). If not, the image may be permanently imprinted on the screen.

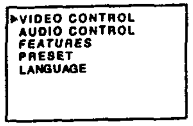
Note
- To prevent imprints on the screen, the picture shifts horizontally and vertically about 5 mm every 2 hours. This is not a malfunction of the TV.

Adjusting the picture setting (*ADJUSTMENT*)

You can adjust the picture quality to suit your taste with the ADJUSTMENT option. The adjusted settings are stored in the PERSONAL option.

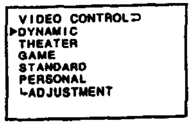


1 Press MENU.



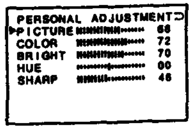
```
▶VIDEO CONTROL
 AUDIO CONTROL
 FEATURES
 PRESET
 LANGUAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to VIDEO CONTROL, and press ENTER.



```
 VIDEO CONTROL⊃
▶DYNAMIC
 THEATER
 GAME
 STANDARD
 PERSONAL
 └ADJUSTMENT
```

3 Press Δ + or ∇ – to move the cursor (▶) to ADJUSTMENT, and press ENTER.



```
 PERSONAL ADJUSTMENT⊃
▶PICTURE  ||||||||||······  68
 COLOR    ||||||||||||····  72
 BRIGHT   |||||||||||·····  70
 HUE      ·······|········  00
 SHARP    ||||||··········  46
```

4 Press Δ + or ∇ – to move the cursor (▶) to the item you want to adjust, and press ENTER.

5 Press Δ + or ∇ – to adjust the item, and press ENTER.

Item	Press Δ + to	Press ∇ – to
PICTURE	Increase picture contrast	Decrease picture contrast
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
HUE	Make skin tones become greenish	Make skin tones become reddish
SHARP	Sharpen the picture	Soften the picture

6 To adjust other items, repeat steps 4 and 5.

7 Press MENU to return to the normal screen.

Note
- You can adjust HUE for NTSC color system only.

If the color of the picture is abnormal when receiving programs through the Ⲧ (antenna) terminal

Press COLOR SYSTEM on the projection TV or change the TV system setting from the menu as described below until the color becomes normal.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to PRESET, and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to *MANUAL PROGR*, and press *ENTER*.

4 Press Δ + or ∇ – to move the cursor (▶) to TV SYS, and press ENTER.

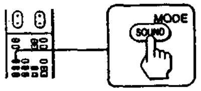
5 Press Δ + or ∇ – to change the TV system until the color becomes normal.

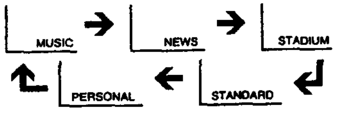
Note
- Normally set COLOR SYSTEM to AUTO.

Selecting the sound mode

You can select the sound mode using the menu as well as the SOUND MODE button on the remote commander. Select AUDIO CONTROL from the main menu, then select the desired mode.

Press SOUND MODE until the mode you want appears on the screen.

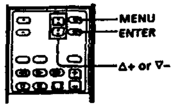




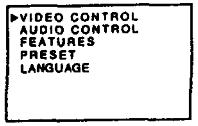
Select	*To*
MUSIC	Listen to music programs. It gives sound with a live concert effect.
NEWS	Listen to news program. A person's voice can be heard clearly.
STADIUM	Listen to sports program. It gives sound with a sports stadium effect.
STANDARD	Listen to sound other than music, news or sports program.
PERSONAL	*Listen to the sound that is adjusted* using ADJUSTMENT in the AUDIO CONTROL menu.

Adjusting the sound setting (ADJUSTMENT)

You can adjust the sound quality to suit your taste with the ADJUSTMENT option. The adjusted settings are stored in the PERSONAL option.

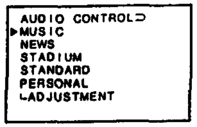


1 Press MENU.



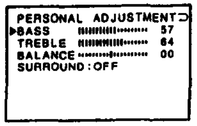
```
▶VIDEO CONTROL
 AUDIO CONTROL
 FEATURES
 PRESET
 LANGUAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to AUDIO CONTROL, and press ENTER.



```
 AUDIO CONTROL⊃
▶MUSIC
 NEWS
 STADIUM
 STANDARD
 PERSONAL
 └ADJUSTMENT
```

3 Press Δ + or ∇ – to move the cursor (▶) to ADJUSTMENT, and press ENTER.



```
 PERSONAL  ADJUSTMENT⊃
▶BASS     ||||||||||······  57
 TREBLE   ||||||||||||····  64
 BALANCE ·······|·······    00
 SURROUND:OFF
```

4 Press Δ + or ∇ – to move the cursor (▶) to the item you want to adjust, and press ENTER.

5 Press Δ + or ∇ – to adjust the item, and press ENTER.

Item	Press Δ + to	Press ∇ – to
BASS	Increase the bass sound	Decrease the bass sound
TREBLE	Increase the treble sound	Decrease the treble sound
BALANCE	Increase the volume of right speaker	Increase the volume of left speaker

6 To adjust other items, repeat steps 4 and 5.

7 *Press MENU to return to the normal screen.*

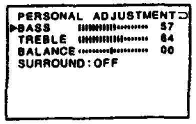
Listening to surround sound

You can enjoy a surround sound effect that is like being in a movie theater or a concert hall when receiving stereo signals.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to AUDIO CONTROL, and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to ADJUSTMENT, and press ENTER.



```
 PERSONAL  ADJUSTMENT⊃
▶BASS     ||||||||||······  57
 TREBLE   ||||||||||||····  64
 BALANCE ·······|·······    00
 SURROUND:OFF
```

4 Press Δ + or ∇ – to move the cursor (▶) to SURROUND, and press ENTER.

5 Press Δ + or ∇ – to select ON, and press ENTER.

If the sound is distorted or noisy when receiving programs through the ╥ (antenna) terminal

Press COLOR SYSTEM on the projection TV or change the TV system setting as follows until the sound becomes clear.

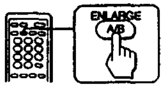
1. **Press MENU.**
2. **Press Δ + or ∇ – to move the cursor (▶) to PRESET, and press ENTER.**
3. **Press Δ + or ∇ – to move the cursor (▶) to MANUAL PROGR, and press ENTER.**
4. **Press Δ + or ∇ – to move the cursor (▶) to TV SYS, and press ENTER.**
5. **Press Δ + or ∇ – to change the TV system until the sound becomes clear.**

Note
- Normally set COLOR SYSTEM to AUTO.

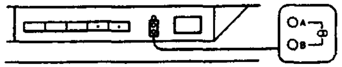
Selecting a stereo or bilingual program

You can enjoy stereo sound or bilingual program of NICAM and A2 (German) stereo systems. The initial setting is stereo sound.

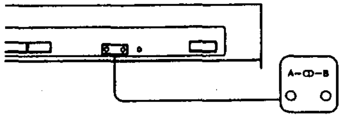
Press A/B/ENLARGE repeatedly until you receive the sound you want.
The sound changes and the corresponding indicator lights up as follows:



KP-E41



KP-E53



When receiving a NICAM program:

Broadcasting	On-screen Display	Selected sound (Indicator lit)
NICAM stereo	NICAM	→ Stereo → Regular (A and B)
NICAM bilingual	NICAM	→ A → B → Regular (A) (B)
NICAM monaural	NICAM	→ NICAM monaural (A) Regular ←

When receiving an A2 (German) stereo program:

Broadcasting	On-screen display	Selected sound (Indicator lit)
A2 (German) stereo	STEREO	→ Stereo → Monaural (A and B)
A2 (German) bilingual	—	→ A → B (A) (B)

Receiving area for NICAM and A2 (German) stereo programs

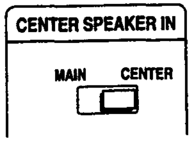
System	Receiving area
NICAM	Hong Kong, Singapore, New Zealand, etc.
A2 (German) stereo	Australia, Malaysia, Thailand, etc.

Notes
- If the signal is very weak, the sound becomes monaural.
- If the stereo sound is noisy, select "regular" or "mono." The sound becomes monaural, however, the noise will be reduced.

You cannot receive stereo broadcasts in mainland China.

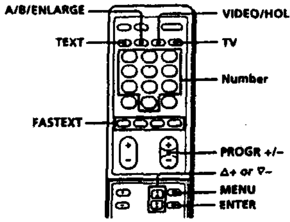
Setting the speaker switch

If you connect a Dolby Pro Logic-compatible amplifier to the CENTER SPEAKER IN terminals, you can use the projection TV speakers as center speakers.
To use the projection TV speakers as center speakers, set the CENTER SPEAKER IN switch located at the rear of the projection TV to CENTER.
To listen to the sound from the projection TV, set to MAIN. See page 25 for connection.



Viewing Teletext

TV stations broadcast an information service called Teletext via a local TV channel.
Teletext service allows you to receive various information such as weather forecasts or news at any time. Some of the features, however, may not be available depending on the Teletext service.



Note on Teletext

- Teletext service is not available in Chinese.

Displaying Teletext

1. **Select a TV channel which carries the Teletext broadcast you want to watch.**
2. **Press TEXT to display the Teletext.**
   A Teletext page (normally the index page) is displayed on the left. If there is no Teletext broadcast, P100 appears in the top left corner of the screen.

To switch Teletext off, press TV.

Superimposing a Teletext page on the TV picture

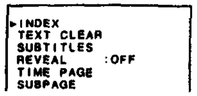
Press TEXT.
Each time you press TEXT, the screen changes as follows:

→ Teletext → Teletext and TV → TV ⏎

Checking the contents of a Teletext service (INDEX)

When Teletext is switched on, you can display the Teletext menu.

1. **Press MENU.**



```
►INDEX
 TEXT CLEAR
 SUBTITLES
 REVEAL      :OFF
 TIME PAGE
 SUBPAGE
```

2. **Press Δ + or ∇ – to move the cursor (►) to INDEX, and press ENTER.**

Selecting a Teletext page

Press the number buttons to enter the three-digit page number of the Teletext number you want.
If you make a mistake, re-enter the correct page number.

To access the next or previous page, press PROGR +/–.

Note

- *When you request another Teletext page while viewing one Teletext page, the page scrolling may pause on a different page depending on the Teletext service, but the search will continue till the requested page is displayed.*

Preventing a Teletext page from being updated (HOLD)

A Teletext page may consist of several subpages. You can stop the page scrolling in order to read the text at your own pace.

Press VIDEO/HOLD.
HOLD appears in the top left corner of the screen.

To resume normal Teletext operation, press TEXT.

Using FASTEXT

This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT page is broadcast, a color-coded menu appears at the bottom of the screen. The colors of the menu correspond to the red (TV/VIDEO), green (FREEZE), yellow (SWAP) and blue (PIP) buttons on the remote commander. These colored buttons function as the FASTEXT buttons in Teletext mode.

Press the colored button which corresponds to the color-coded menu.
The page is displayed after a few seconds.

Enlarging the Teletext display (ENLARGE)

Each time you press A/B/ENLARGE, the Teletext display changes as follows:

→Enlarge upper half→Enlarge lower half→Normal size ⏎

Revealing concealed information (REVEAL)

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option discloses the information.

1. **Press MENU.**
2. **Press Δ + or ∇ – to move the cursor (►) to REVEAL, and press ENTER.**
3. **Press Δ + or ∇ – to select ON, and press ENTER.**

To conceal the information again, select OFF.

Watching a TV program while waiting for a requested Teletext page (TEXT CLEAR)

1. **Select the Teletext page to which you want to refer.**
2. **Press MENU.**
3. **Press Δ + or ∇ – to move the cursor (►) to TEXT CLEAR, and press ENTER.**
4. **When the page number is displayed on the screen, press TEXT to switch the Teletext on.**

To restore the normal Teletext reception, press TEXT.

Displaying subtitles (SUBTITLES)

Your Teletext service informs you if a TV program is subtitled.

1. **Press MENU.**
2. **Press Δ + or ∇ – to move the cursor (►) to SUBTITLES, and press ENTER.**

Note

- *If the subtitles are not broadcast on page 888, select the subtitle page using the number buttons.*

Displaying a Teletext page at the requested time (TIME PAGE)

You can display a time-coded page (e.g. an alarm page) at the time you preset.

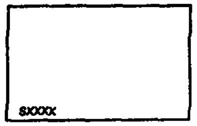
1. **Press MENU.**
2. **Press Δ + or ∇ – to move the cursor (►) to TIME PAGE, and press ENTER.**
3. **Press the number buttons to enter four digits for the desired time. For example, to enter 7:30, press 0,7,3 and 0.**

At the requested time, the page appears on the screen.

To restore the normal Teletext reception, press TEXT.

Displaying a particular page among several subpages (SUBPAGE)

1. **Press MENU.**
2. **Press Δ + or ∇ – to move the cursor (►) to SUBPAGE, and press ENTER.**
3. **Press the number buttons or PROGR +/– to enter four digits for the desired subpage. For example, to display the second page of a sequence, press 0, 0, 0 and 2.**



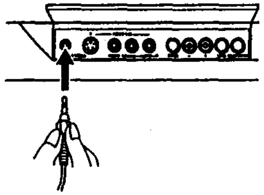
Using headphones

You can use headphones to enjoy the sound of the TV. This feature also allows you to enjoy the sound of PIP screens.

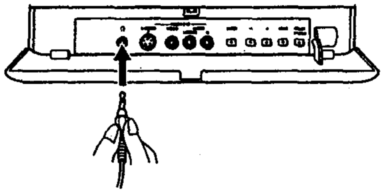
Listening to the sound of the projection TV with headphones

Insert the headphones into the ∩ (headphones) jack located on the front panel of the projection TV.
The sound from the speaker is shut off.
To adjust the headphones volume, press VOL +/–.

KP-E41



KP-E53



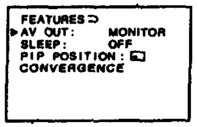
Customizing the projection TV

Using the AV OUT (advance rec-out) terminal

You can select the output signal from the VIDEO jacks at the rear of the projection TV.
The S Video output can be used only when MONITOR is selected.

1 **Press MENU.**

2 **Press Δ + or ∇ – to select FEATURES, and press ENTER.**



```
 FEATURES ⊃
▶AV OUT:      MONITOR
 SLEEP:       OFF
 PIP POSITION : ⊡
 CONVERGENCE
```

3 **Press Δ + or ∇ – to select AV OUT, and press ENTER.**

4 **Press Δ + or ∇ – to select the output signal, and press ENTER.**

Select	To
TV	Output the TV signal.
MONITOR	Output the signal of the picture you are watching as a main picture.

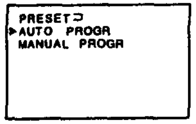
Note
- *Do not change the channel while recording with a VCR through the MONITOR/TV OUT jacks. If you change the channel, it also changes the channel you are recording.*

Presetting channels manually

To change the program position for a channel or to receive a channel with a weak signal, preset the channel manually.
For example, preset a channel in program position 8.

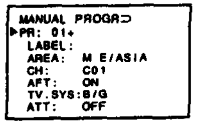
1 **Press MENU.**

2 **Press Δ + or ∇ – to move the cursor (▶) to PRESET, and press ENTER.**



```
 PRESET⊃
▶AUTO  PROGR
 MANUAL  PROGR
```

3 **Press Δ + or ∇ – to select MANUAL PROGR, and press ENTER.**



```
 MANUAL PROGR⊃
▶PR: 01+
  LABEL:
  AREA:   M E/ASIA
  CH:     C01
  AFT:    ON
  TV.SYS:B/G
  ATT:    OFF
```

4 **Select the program position to which you want to preset a channel.**
(1) Press Δ + or ∇ – to select PR, and press ENTER.
(2) Press Δ + or ∇ – to select 8.
You can also select the program position with PROGR +/– or the number buttons (e.g. for program 24, press -/--, 2 and 4).
(3) Press ENTER.

5 **Select your area (channel system).**
For the areas allocated in each channel system, see "Channel allocation" on page 27.
(1) Press Δ + or ∇ – to select AREA, and press ENTER.
(2) Press Δ + or ∇ – to select your area, and press ENTER.

6 **Select a channel which you want to preset.**
(1) Press Δ + or ∇ – to select CH, and press ENTER.
(2) Press Δ + or ∇ – until the channel you want appears on the screen.
You can also select the channel directly using the number buttons. Press C (once for VHF/UHF channels, twice for cable TV channels), then the number buttons (e.g., for channel 5, press 0 and 5).
(3) Press ENTER.

To preset other channels
Repeat steps 4 to 6.

Disabling program positions

By disabling unused or unwanted program positions, you can skip those positions when you press PROGR +/–.
For example, disable program position 8.

1 **Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on this page.)**

2 **Press Δ + or ∇ – to move the cursor (▶) to PR, and press ENTER.**

3 **Press PROGR + or – until 8 appears.**

4 **Press Δ + or ∇ – to select "–", and press ENTER.**
To skip other program positions, repeat steps 3 and 4.

To restore the skipped program positions
In step 4 above, press Δ + or ∇ – to select "+," and press ENTER.

Customizing channel names

You can caption each channel number using up to five letters to be displayed on the screen.

1 **Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on page 21.)**

2 **Press Δ + or ∇ – to move the cursor (▶) to PR, and press ENTER.**

3 **Press Δ + or ∇ – to select the program position you want to caption and press ENTER.**

4 **Press Δ + or ∇ – to move the cursor (▶) to LABEL, and press ENTER.**

5 **Press Δ + or ∇ – to select a letter or number, and press ENTER for each caption space (up to five.)**
Each time you press Δ + or ∇ –, the letter (number) changes as shown below.
A→B→...→Z→0→1→...→9→ - →:→/→.→ +→_ (space)
For the caption space you want to leave blank, select "–."

6 **Repeat steps 2 to 5 to caption other channels.**

To erase a caption
In step 5 above, select "_ (space)."

Manual fine-tuning

Normally, the automatic fine-tuning (AFT) is operating. However, if the picture of a channel is distorted, you can use the manual fine-tuning function for the channel to obtain better picture reception.

1 **Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on page 21.)**

2 **Press Δ + or ∇ – to move the cursor (▶) to PR, and press ENTER.**

3 **Press Δ + or ∇ – to select the program position corresponding to the channel which you want to manually fine-tune, and press ENTER.**

4 **Press Δ + or ∇ – to move the cursor (▶) to AFT, and press ENTER.**

5 **Press Δ + or ∇ – to select OFF, and press ENTER.**

6 **Press Δ + or ∇ – to fine-tune the channel so that you get the best TV reception.**
As you press these buttons, the frequency changes from –128 to +128.

7 **After fine-tuning, press ENTER.**
The fine-tuned level is stored.

Improving TV signal

If the reception signal is very strong, you can attenuate it to obtain better picture reception.

1 **Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on page 21.)**

2 **Press Δ + or ∇ – to move the cursor (▶) to PR, and press ENTER.**

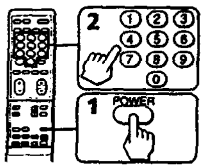
3 **Press Δ + or ∇ – to select the program position corresponding to the channel whose signal is very strong, and press ENTER.**

4 **Press Δ + or ∇ – to move the cursor (▶) to ATT, and press ENTER.**

5 **Press Δ + or ∇ – to select ON, and press ENTER.**

Setting the remote command mode

You can use the supplied remote commander to operate the TV and Sony video equipment, such as a VCR or multi-disc player. To operate Sony video equipment, first set the remote command mode for the video equipment you want to use.

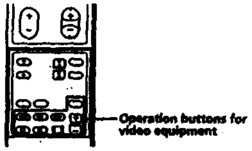


1 **Press and hold the POWER button in the VCR control area.**

2 **Press the number buttons that correspond to the remote command mode.**

Mode number buttons	Remote command mode
0 and then 1	VTR1 (e.g., Beta format VCR)
0 and then 2	VTR2 (e.g., 8 mm format VCR)
0 and then 3	VTR3 (e.g., VHS format VCR)
0 and then 4	MDP (multi-disc player)

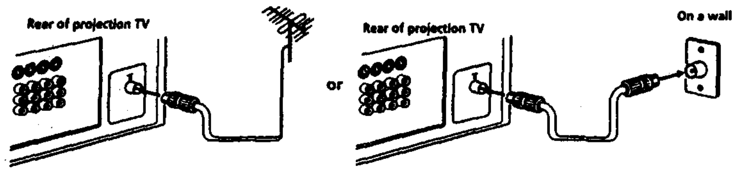
After setting the remote command mode, you can use the following buttons to operate the video equipment.



Connections

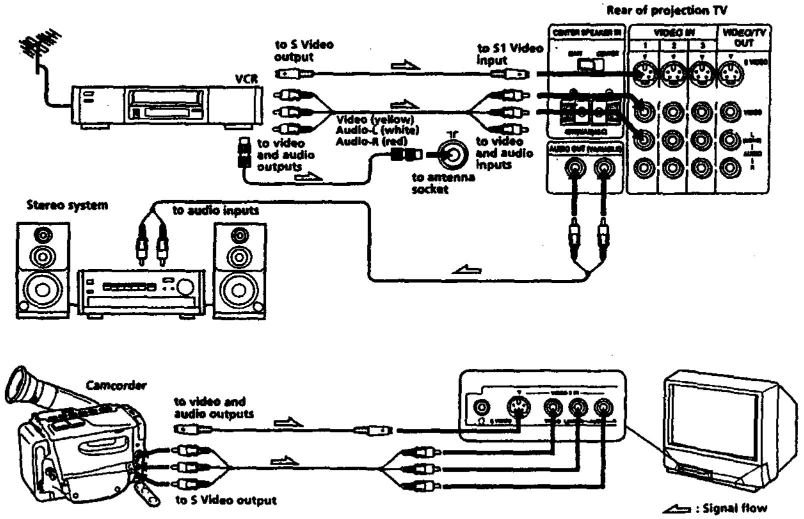
Connecting a VHF antenna or a combination VHF/UHF antenna—75-ohm coaxial cable (round)

Attach an optional IEC antenna connector to the 75-ohm coaxial cable.
Plug the connector into the ⫪ (antenna) terminal at the rear of the projection TV.


Rear of projection TV
or
Rear of projection TV
On a wall

Connecting optional equipment

You can connect optional audio/video equipment to this projection TV such as a VCR, multi-disc player, camcorder, headphones, or stereo system.


Rear of projection TV
CENTER SPEAKER IN
VIDEO IN
1
2
3
VIDEO/TV OUT
S VIDEO
VIDEO
AUDIO OUT (VARIABLE)
to S Video output
to S1 Video input
VCR
Video (yellow)
Audio-L (white)
Audio-R (red)
to video and audio outputs
to video and audio inputs
to antenna socket
Stereo system
to audio inputs
Camcorder
to video and audio outputs
to S Video output

⊲ : Signal flow

When connecting a monaural VCR
Connect the yellow plug to VIDEO and the white plug to AUDIO-L (mono).

If both S Video and video signals are input
The S Video input signal is selected. To view a video signal, disconnect the S Video connection.

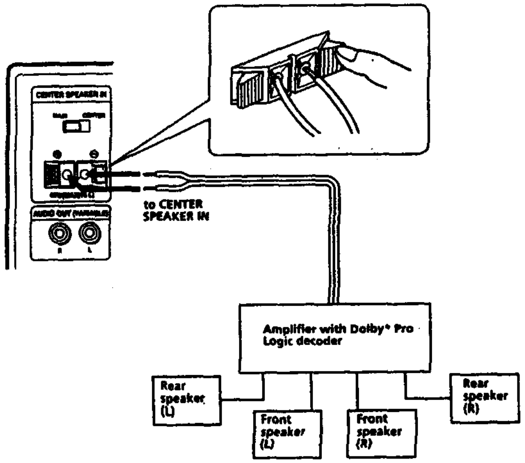
Note on the video input
When no signal is input, the screen becomes black and on-screen-display becomes dark.

When connecting a VCR to the VIDEO 3 IN jacks
This projection TV is equipped with two sets of the VIDEO 3 IN jacks on the front and rear panels. Front and rear jacks are not available to be used at the same time. When using equipment connected, turn off other equipment not in use.

Connecting an amplifier with Dolby Pro Logic decoder

If you use an amplifier with Dolby Pro Logic decoder instead of the projection TV's audio system, you can still use the projection TV's center speaker.

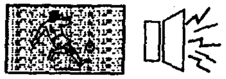
*Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY, the double-D symbol ⅅ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.


CENTER SPEAKER IN
AUDIO OUT (VARIABLE)
to CENTER SPEAKER IN
Amplifier with Dolby* Pro Logic decoder
Rear speaker (L)
Front speaker (L)
Front speaker (R)
Rear speaker (R)

Troubleshooting

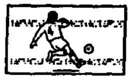
If you have any problems, read this manual again and check the countermeasure for each of the symptoms listed below.
If the problem persists, contact your nearest authorized service center or dealer.

Snowy picture
Noisy sound



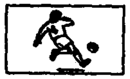
→Check the antenna.
→Check the antenna connection on the projection TV and on the wall.

Dotted lines or stripes



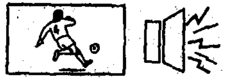
→This may be caused by local interference (e.g. cars, neon signs, hair dryers, etc.) Adjust the antenna for minimum interference.

Double images or "ghosts"



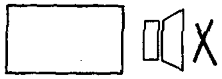
→This may be caused by reflections from nearby mountains or buildings. A highly directional antenna may improve the picture.

Good picture
Noisy sound



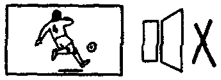
→Check the TV SYSTEM setting.

No picture
No sound



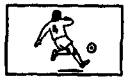
→Press POWER.
→Press POWER to turn the projection TV off for 5 to 6 seconds, then turn it on again by pressing POWER.
→Check the antenna connection.
→Check the VCR connections.

Good picture
No sound



→Press VOL +.
→Press MUTING.

No color



→Adjust COLOR in the VIDEO CONTROL menu's ADJUSTMENT option.
→Check the COLOR SYSTEM setting.

TV cabinet creaks

→Even if the picture or the sound is normal, changes in the room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.

Channel allocation

Areas allocated in each channel system

M E/ASIA/CATV W EURO
Afghanistan, Albania, Algeria, Austria, Bahrain, Bangladesh, Belgium, Brunei, Canary Islands, Cyprus, Denmark, Egypt, Finland, Germany, Ghana, Gibraltar, Greece, Iceland, India, Indonesia, Iran, Iraq, Italy, Jordan, Kenya, Republic of Korea, Kuwait, Lebanon, Liberia, Libya, Luxemburg, Malaysia, Malta, Mauritania, Mauritius, Maldives Rep., Morocco, Mozambique, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Portugal, Qatar, Sarawak, Saudi Arabia, Seychelles, Sierra Leone, Singapore, Spain, Srilanka, Sudan, Swaziland, Sweden, Switzerland, Syrian Arab Rep., Tanzania, Thailand, Tunisia, Turkey, Uganda, United Arab Emirates, Western Sahara, Yemen Arab Republic, People's Dem. Rep. of Yemen, Yugoslavia, Zambia, Zimbabwe

AUSTRALIA
Australia, New Zealand

HK/UK
Hong kong, Ireland, Lesotho, South Africa, United Kingdom

CHINA/E EURO
Benin, Bulgaria, China, Congo, Czechoslovakia, Djibouti Republic, Gabon, Guadeloupe, Guiana, Guinea (P.P.R.), Hungary, Ivory Coast, Dem. People's Rep. of Korea, Madagascar, Mongolia, New Caledonia, Niger, Poland, Reunion, Rumania, Senegal, Tahiti, Togo, Former U.S.S.R., Vietnam, Zaire

AMERICA/CATV AMERICA
Bahama Islands, Barbados, Belize, Bermuda, Bolivia, Burma (UHF), Canada, Chile, Colombia, Costa Rica, Cuba, Dominica Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Hawaii, Honduras, Jamaica, Laos, Mexico, Panama, Peru, Philippines, Puerto Rico, Surinam, Taiwan, Trinidad & Tobago, U.S.A., U.S.A. (CATV), Venezuela

JAPAN
Burma (Myanmar) (VHF), Japan (VHF, UHF)

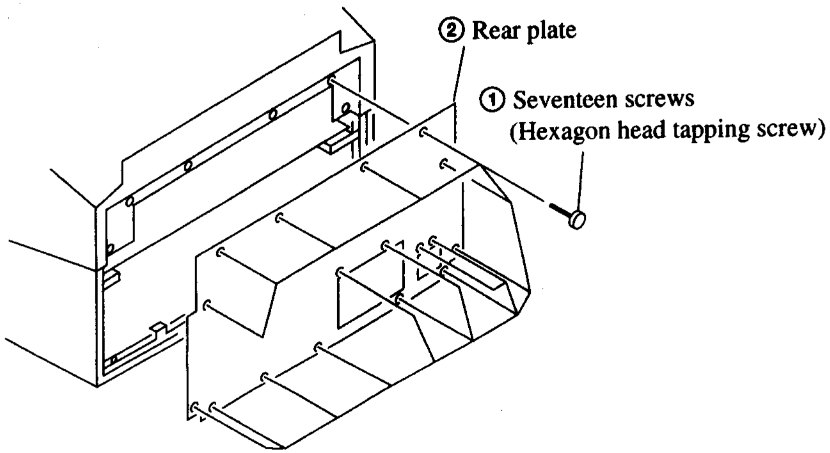
TV and color systems of each channel system

The TV system and color system are automatically set according to the channel system.

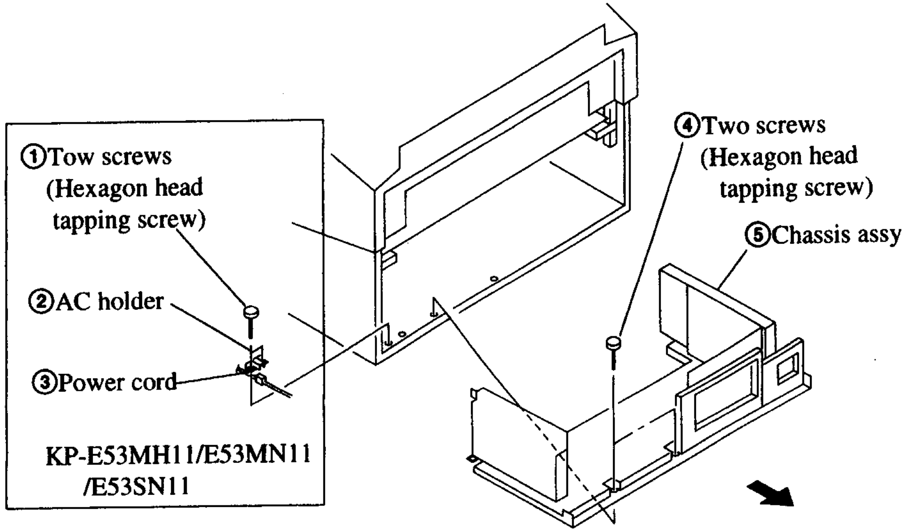
Channel system	TV system	Color system
M E/ASIA/ CATV W EURO	B/G, H: West European TV standard	AUTO
AUSTRALIA	B/G, H: Australian TV standard	AUTO
HK/UK	I: British TV standard	AUTO
CHINA/E EURO	D/K: East European TV standard	AUTO
AMERICA/CATV AMERICA	M: American TV standard	AUTO
JAPAN	M: Japan TV standard	AUTO

SECTION 2
DISASSEMBLY

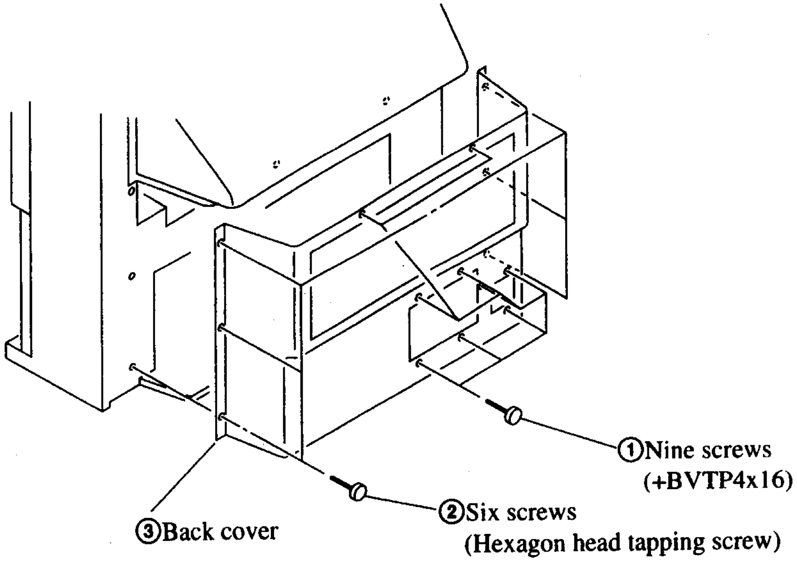
2-1-1. (1) REAR PLATE REMOVAL (KP-E41MH11/E41MN11/E41SN11)


② Rear plate
① Seventeen screws
(Hexagon head tapping screw)

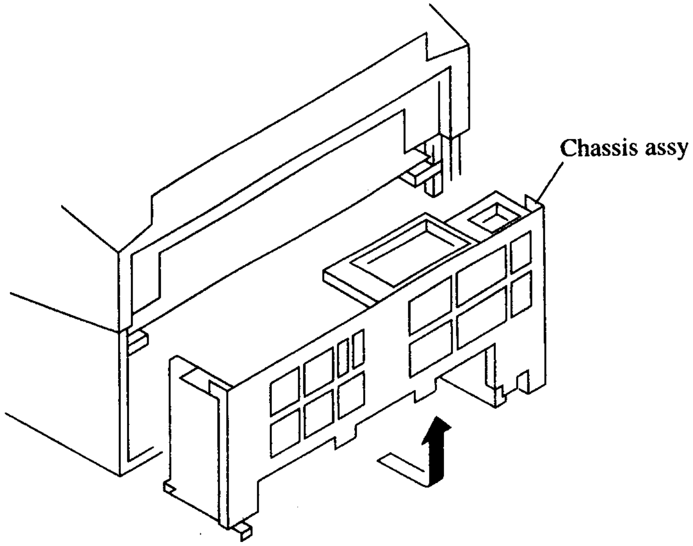
2-1-2. CHASSIS ASSY REMOVAL


①Tow screws
(Hexagon head
tapping screw)
②AC holder
③Power cord
KP-E53MH11/E53MN11
/E53SN11
④Two screws
(Hexagon head
tapping screw)
⑤Chassis assy

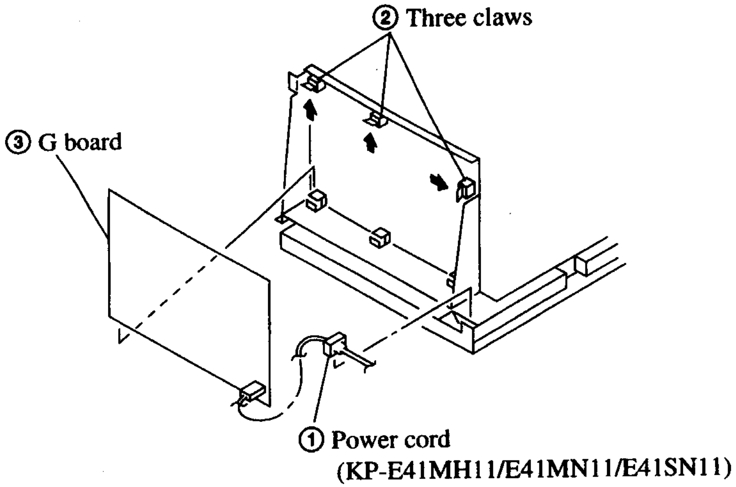
2-1-1. (2) BACK COVER REMOVAL (KP-E53MH11/E53MN11/E53SN11)


①Nine screws
(+BVTP4x16)
②Six screws
(Hexagon head tapping screw)
③Back cover

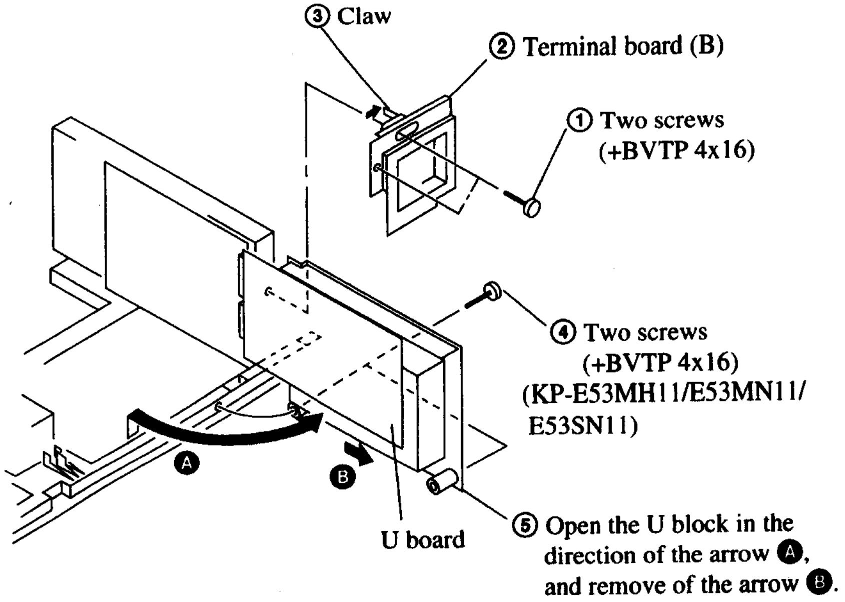
2-1-3. SERVICE POSITION


Chassis assy

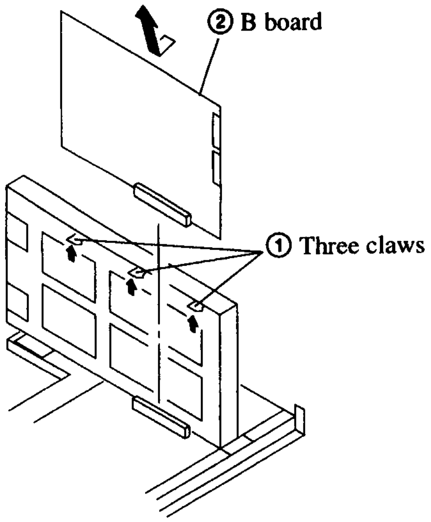
2-1-4. G BOARD REMOVAL


② Three claws
③ G board
① Power cord
(KP-E41MH11/E41MN11/E41SN11)

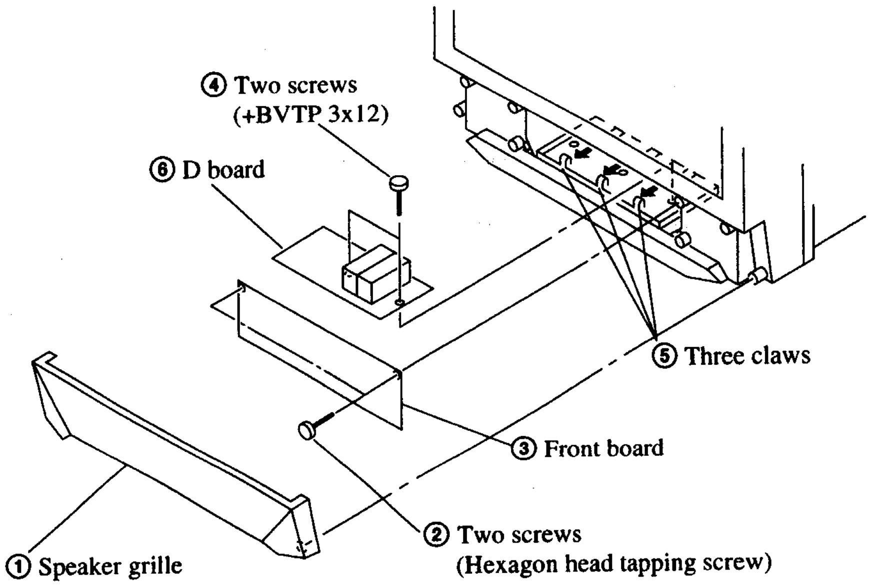
2-1-5. U BOARD REMOVAL


③ Claw
② Terminal board (B)
① Two screws
(+BVTP 4x16)
④ Two screws
(+BVTP 4x16)
(KP-E53MH11/E53MN11/
E53SN11)
Ⓐ
Ⓑ
U board
⑤ Open the U block in the direction of the arrow Ⓐ, and remove of the arrow Ⓑ.

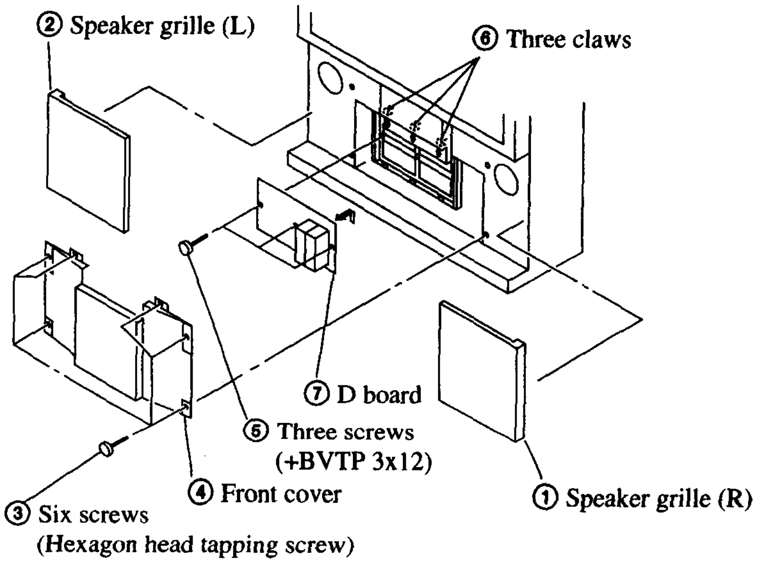
2-1-6. B BOARD REMOVAL


② B board
① Three claws

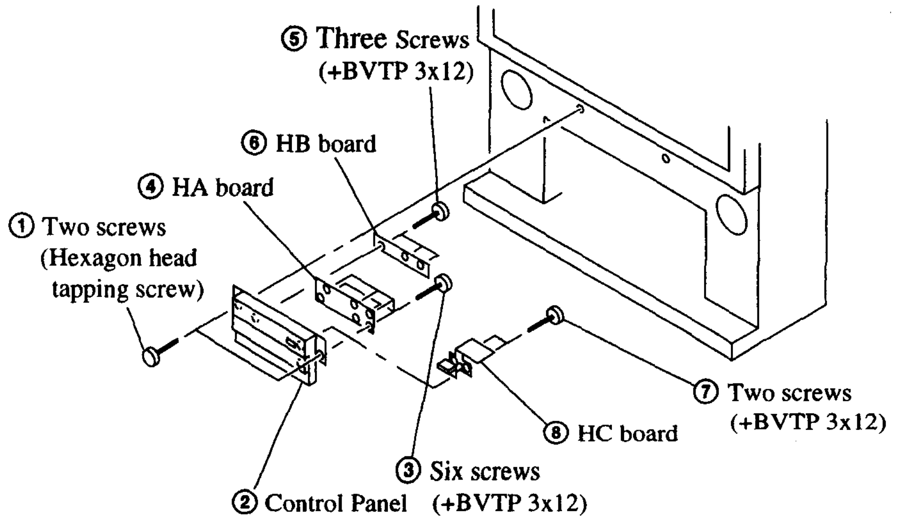
2-1-7. (1) D BOARD REMOVAL (KP-E41MH11/E41MN11/E41SN11)


④ Two screws
(+BVTP 3x12)
⑥ D board
⑤ Three claws
③ Front board
② Two screws
(Hexagon head tapping screw)
① Speaker grille

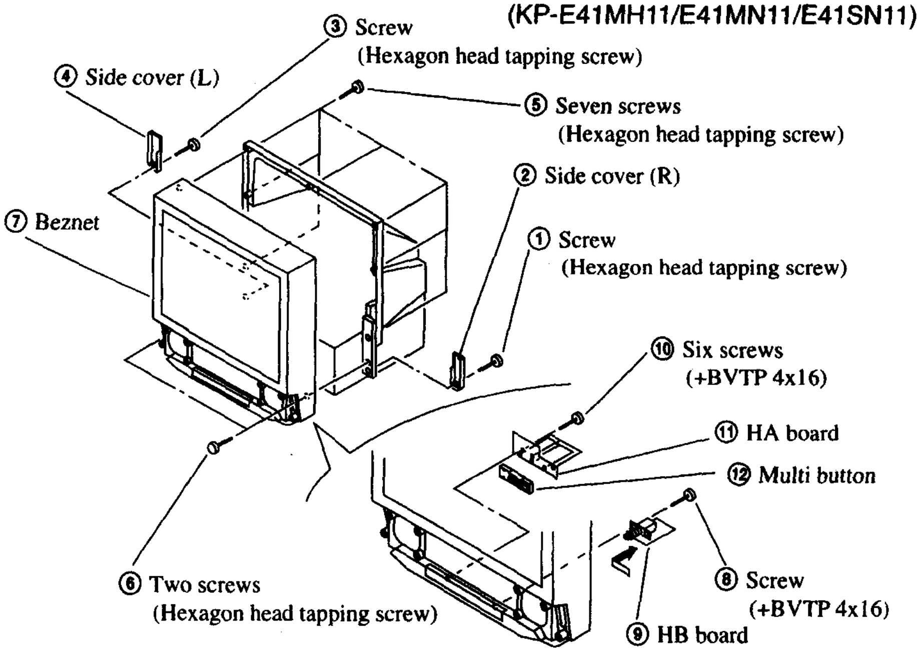
2-1-7. (2) D BOARD REMOVAL (KP-E53MH11/E53MN11/E53SN11)


② Speaker grille (L)
⑥ Three claws
⑦ D board
⑤ Three screws
(+BVTP 3x12)
④ Front cover
③ Six screws
(Hexagon head tapping screw)
① Speaker grille (R)

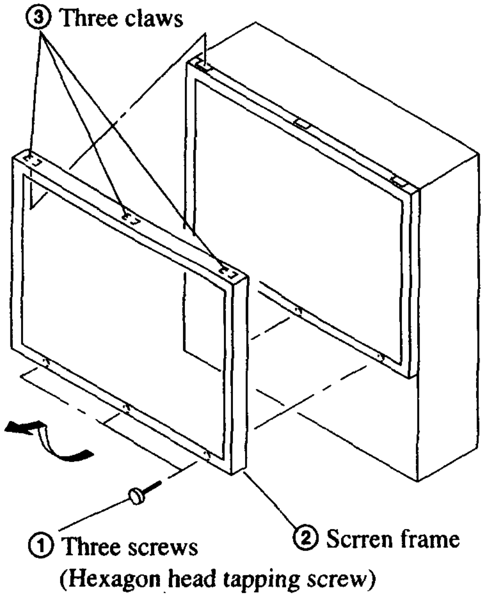
2-1-8. (2)HA AND HB BOARDS REMOVAL (KP-E53MH11/E53MN11/E53SN11)


⑤ Three Screws
(+BVTP 3x12)
⑥ HB board
④ HA board
① Two screws
(Hexagon head
tapping screw)
⑦ Two screws
(+BVTP 3x12)
⑧ HC board
③ Six screws
② Control Panel (+BVTP 3x12)

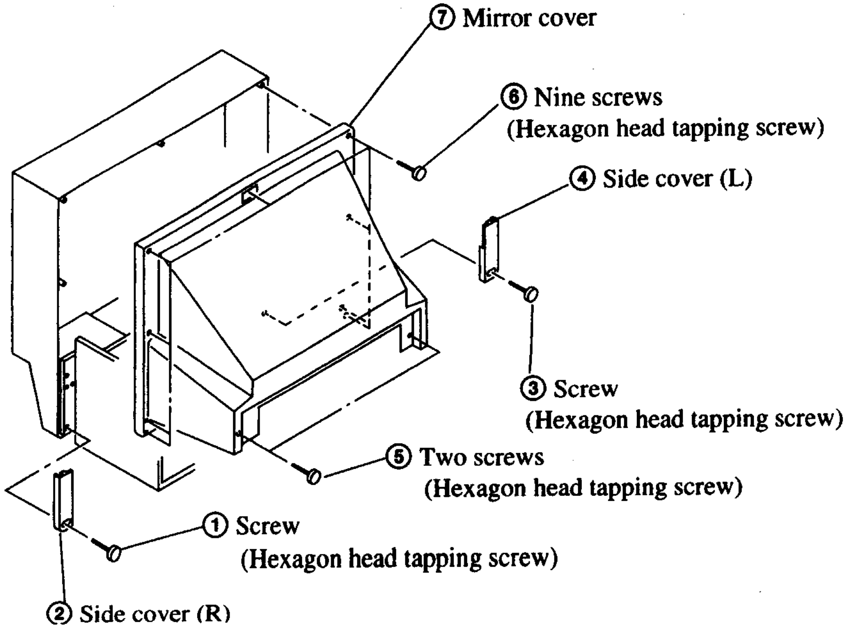
2-1-8. (1) BEZNET, HA AND HB BOARDS REMOVAL (KP-E41MH11/E41MN11/E41SN11)


③ Screw
(Hexagon head tapping screw)
④ Side cover (L)
⑤ Seven screws
(Hexagon head tapping screw)
② Side cover (R)
⑦ Beznet
① Screw
(Hexagon head tapping screw)
⑩ Six screws
(+BVTP 4x16)
⑪ HA board
⑫ Multi button
⑥ Two screws
(Hexagon head tapping screw)
⑧ Screw
(+BVTP 4x16)
⑨ HB board

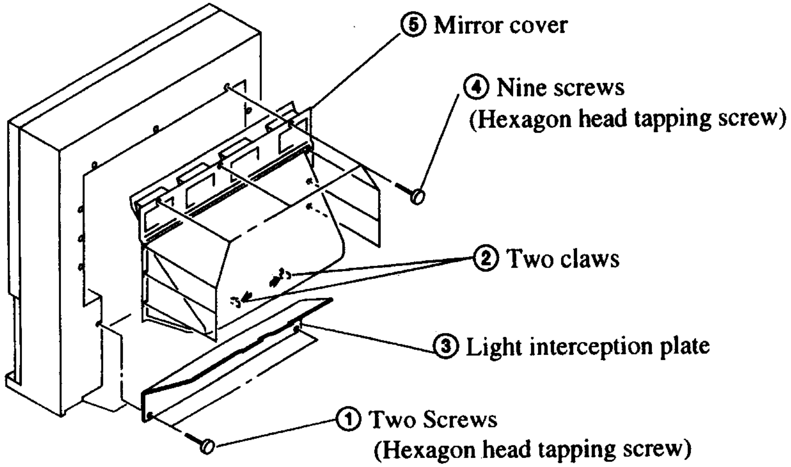
2-1-8. (3)SCREEN FRAME REMOVAL (KP-E53MH11/E53MN11/E53SN11)


③ Three claws
① Three screws
(Hexagon head tapping screw)
② Scrren frame

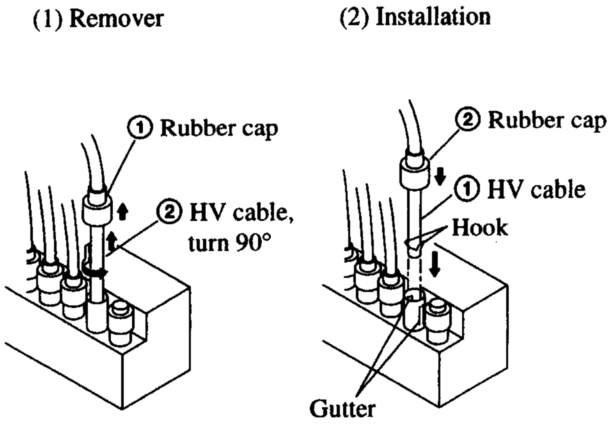
2-1-9. (1) MIRROR COVER REMOVAL (KP-E41MH11/E41MN11/E41SN11)


⑦ Mirror cover
⑥ Nine screws
(Hexagon head tapping screw)
④ Side cover (L)
③ Screw
(Hexagon head tapping screw)
⑤ Two screws
(Hexagon head tapping screw)
① Screw
(Hexagon head tapping screw)
② Side cover (R)

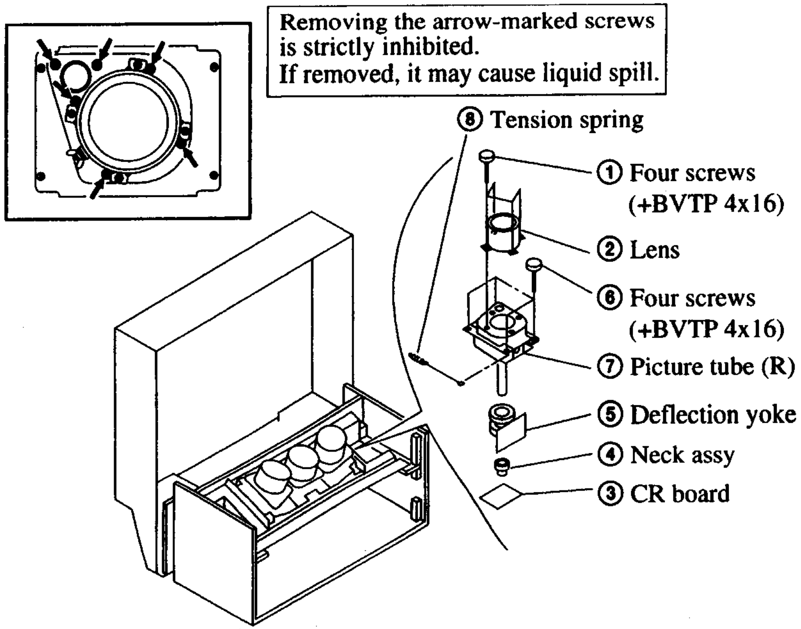
2-1-9. (2) MIRROR COVER REMOVAL (KP-E53MH11/E53MN11/E53SN11)


⑤ Mirror cover
④ Nine screws
(Hexagon head tapping screw)
② Two claws
③ Light interception plate
① Two Screws
(Hexagon head tapping screw)

2-1-10. HIGH-VOLTAGE CABLE INSTALLATION AND REMOVAL


(1) Remover
(2) Installation
① Rubber cap
② HV cable,
turn 90°
② Rubber cap
① HV cable
Hook
Gutter

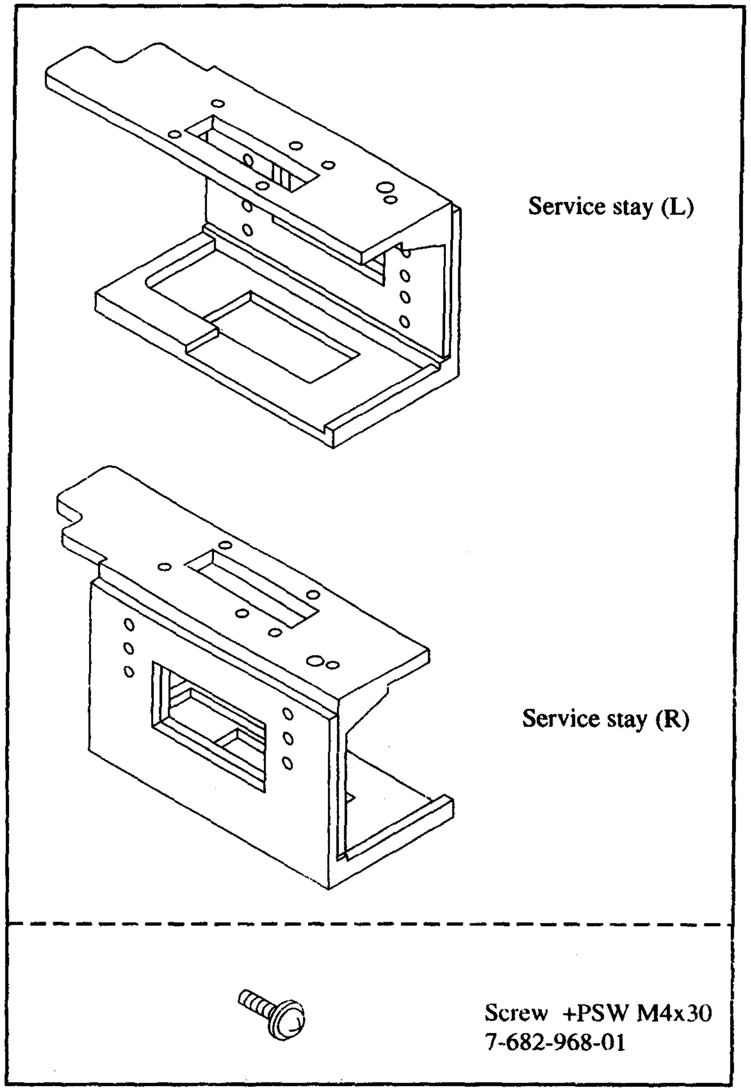
2-1-11. PICTURE TUBE REMOVAL


Removing the arrow-marked screws is strictly inhibited.
If removed, it may cause liquid spill.

⑧ Tension spring
① Four screws
(+BVTP 4x16)
② Lens
⑥ Four screws
(+BVTP 4x16)
⑦ Picture tube (R)
⑤ Deflection yoke
④ Neck assy
③ CR board

2-2.SERVICE STAY ASSY HOW TO USE AND CARRY BACK SERVICE STAY ASSY

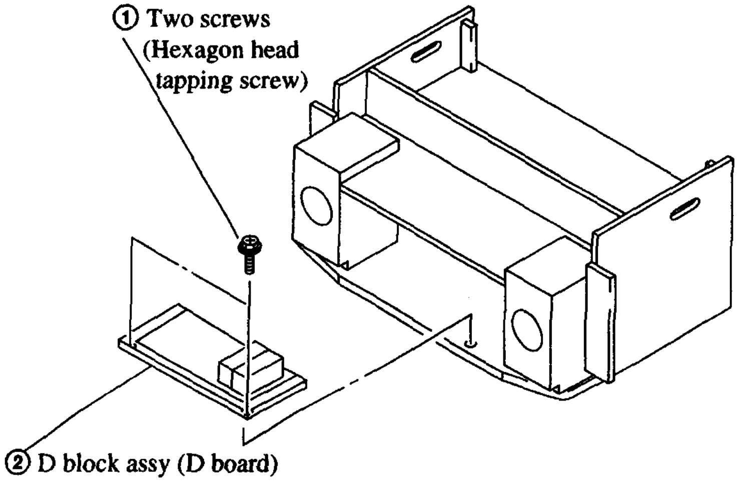
2-2-1.SERVICE STAY ASSY (X-4034-033-1)


Service stay (L)
Service stay (R)
Screw +PSW M4x30
7-682-968-01

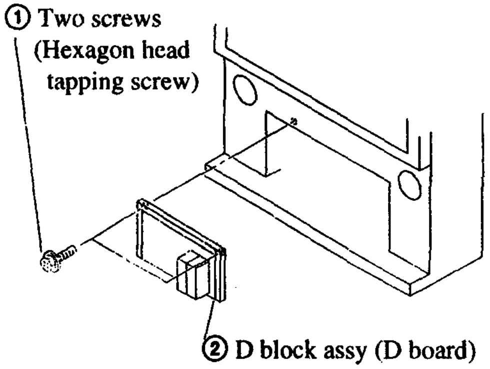
● PREPARATION

1) Remove the rear plate and chassis assy while referring to the instructions.
2) Remove the HA and HB boards while referring to the instructions.
3) Remove the mirror cover while referring to the instructions.
4) Remove the harnesses from the purse lock.
5) Remove the connector from the speaker. (U board : CN2004)

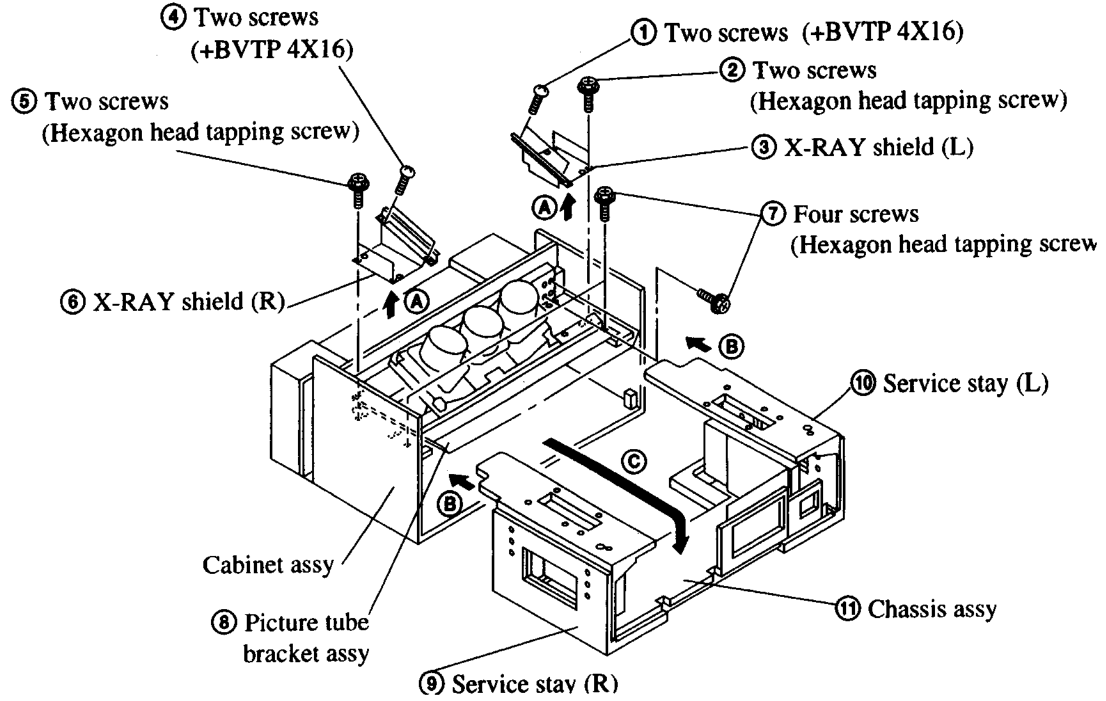
2-2-2. (1) D BLOCK ASSY REMOVEL (KP-E41MH11/E41MN11/E41SN11)


① Two screws
(Hexagon head
tapping screw)
② D block assy (D board)

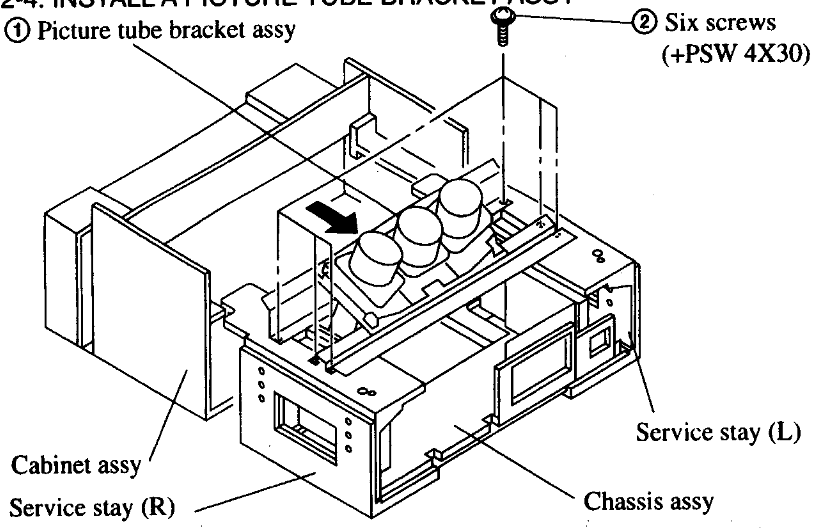
2-2-2. (2) D BLOCK ASSY REMOVEL (KP-E53MH11/E53MN11/E53SN11)


① Two screws
(Hexagon head
tapping screw)
② D block assy (D board)

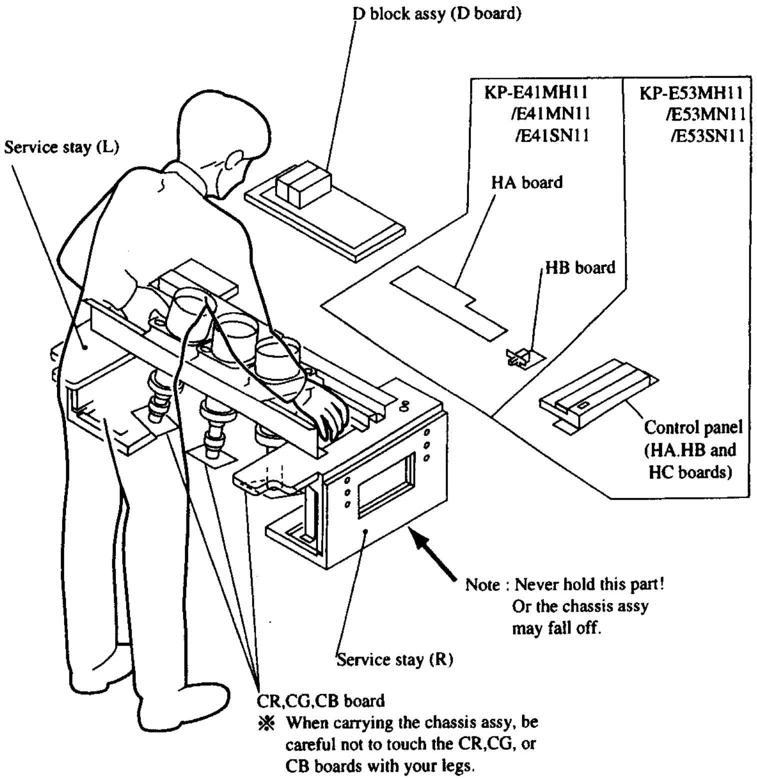
2-2-3. PICTURE TUBE BRACKET ASSY REMOVAL AND INSTALL A CHASSIS ASSY


④ Two screws
(+BVTP 4X16)
① Two screws (+BVTP 4X16)
② Two screws
(Hexagon head tapping screw)
⑤ Two screws
(Hexagon head tapping screw)
③ X-RAY shield (L)
Ⓐ
⑦ Four screws
(Hexagon head tapping screw
⑥ X-RAY shield (R)
Ⓐ
Ⓑ
⑩ Service stay (L)
Ⓒ
Ⓑ
Cabinet assy
⑧ Picture tube
bracket assy
⑪ Chassis assy
⑨ Service stay (R)

2-2-4. INSTALL A PICTURE TUBE BRACKET ASSY


① Picture tube bracket assy
② Six screws
(+PSW 4X30)
Cabinet assy
Service stay (L)
Service stay (R)
Chassis assy

2-2-5. CARRY BACK SERVICE STAY ASSY


D block assy (D board)
KP-E41MH11
/E41MN11
/E41SN11
KP-E53MH11
/E53MN11
/E53SN11
Service stay (L)
HA board
HB board
Control panel
(HA.HB and
HC boards)
Service stay (R)
CR,CG,CB board

Note : Never hold this part!
Or the chassis assy
may fall off.

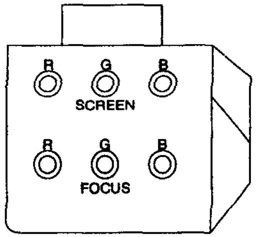
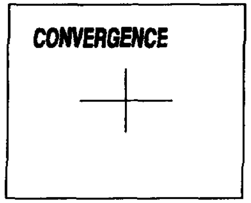
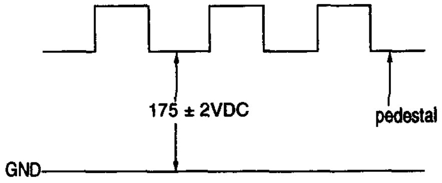
※ When carrying the chassis assy, be careful not to touch the CR,CG, or CB boards with your legs.

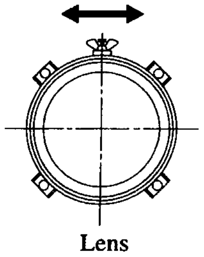
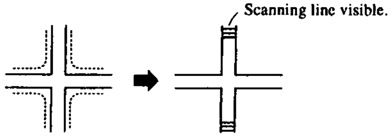
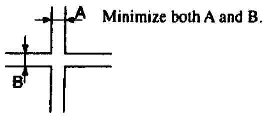
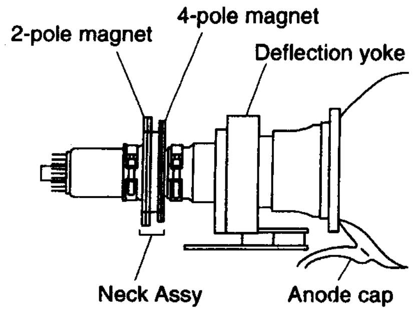
※ Even with 2 servicemen, be sure to put your hands in to the grooves on the top of service stays (L) and (R) to carry the chassis assy.

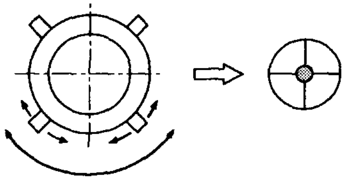
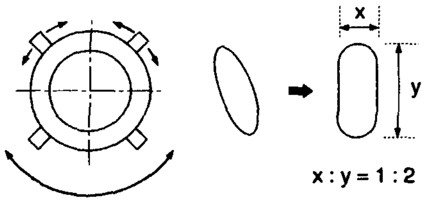
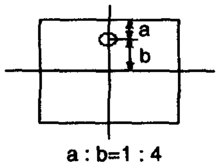
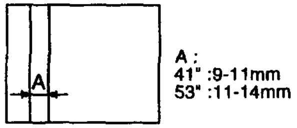
※ To hold the chassis assy, put your hands into the grooves on the top of service stays (L) and (R).

SECTION 3

SET-UP ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
SCREEN VOLTAGE ADJUSTMENT (ROUGH ALIGNMENT) 1. Turn the red VR on the FOCUS block all the way to the left and then gradually turn it to the right until the point where you can see the retrace line. 2. Next gradually turn it to the left to the position where the retrace line disappears.	Monoscope Pattern		PICTURE .... minimum BRIGHTNESS ....50% SCREEN (G2)	 FOCUS block
FOCUS LENS ADJUSTMENT 1. Loose the lens screw. 2. Set in service mode. 3. Use VSP on the service mode menu to shown only the green color. 4. Press the Commander Menu button and select FEATURES and CONVERGENCE to display the test signal on the screen. 5. Rotate the green lens and align with the optimal focus point from the test signal. 6. Use RRH from the service mode menu to set to green and red. 7. Output the test signal and rotate the red lens to obtain the optimum focus at the point where the red and green spots overlap. 8. Use RBH from the service mode menu to set to red and blue. 9. Output the test signal and rotate the blue lens to obtain the optimum focus at the point where the blue and red spots overlap. 10. Tighten the lens screw.				
SCREEN (G2) ADJUSTMENT 1. Select VIDEO mode without signals. 2. Connect an oscilloscope to the TP701(KR), TP731(KG) and TP761(KB) of CR board, CG board and CB board. 3. Adjust R, G and B screen voltage to 175 ± 2VDC with screen VR on the focusblock.				

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
FOCUS VR ADJUSTMENT 1. Set in service mode. 2. Use VSP on the service mode menu to shown only the green color. 3. Press the Commander Menu button (convergence) and output the test signal. 4. Rotate the green VR on the FOCUS block and align to obtain the optimal focus point. 5. Use RRH from the service mode menu to set to green and red. 6. Output the test signal and rotate the red VR to obtain the optimum focus at the point where the red and green spots overlap. 7. Use RBH from the service mode menu to set to red and blue. 8. Output the test signal and rotate the blue VR aligning to obtain the optimum focus at the point where the blue and green spots overlap.				  
DEFLECTION YOKE TILT ADJUSTMENT 1. Set in service mode. 2. Set to receive the monoscope signal. 3. Use VSP on the service mode menu to shown only the green color. 4. Loosen the deflection yoke setscrew and align the tilt of the Deflection Yoke so that the bars at the center of the monoscope pattern are horizontal. 5. After aligning the deflection yoke, fasten it securely to the funnel-shaped portion (neck) of the CRT. 6. The tilt of the deflection yoke for red is aligned with RRH on the service mode menu, and the tilt on the deflection yoke for green is aligned with RBH on the service menu, is aligned the same as was done for green.	Monoscope pattern			 2-pole magnet 4-pole magnet Deflection yoke Neck Assy Anode cap

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
2-POLE MAGNET ADJUSTMENT 1. Set in service mode. 2. Set to receive the dot pattern signal. 3. Place the caps on the red and blue lens so that only the green color is shown. 4. Turn the green VR on the focus block to the right and set to overfocus to enlarge the spot. 5. Now align the 2-Pole Magnet so that the enlarged spot is in the center of the Just Focus spot. 6. Align the green focus VR and set for just (precise) focus. 7. Perform the same alignment for red and blue.	Dot pattern		2-pole magnet	Use the center dot 
4-POLE MAGNET ADJUSTMENT 1. Set in service mode. 2. Set to receive the dot pattern signal. 3. Place the caps on the red and blue lens so that only the green color is shown. 4. Turn the green VR on the focus block to the left and set to underfocus to enlarge the spot. 5. Now align the 4-Pole Magnet so that the enlarged spot becomes a perfect circle.	Dot pattern		4-pole magnet	Use the center dot 
DEFOCUS ADJUSTMENT 1. Receive the crosshatch signal. 2. Adjust the FOCUS knob so that the crosshatch pattern vertical line width is as in the figure on the right.	Crosshatch pattern		FOCUS VR • RED • GREEN • BLUE	• Focus adjustment point   without flare

ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander (RM-901) can be performed circuit adjustments about this model.

NOTE : Test Equipment Required.

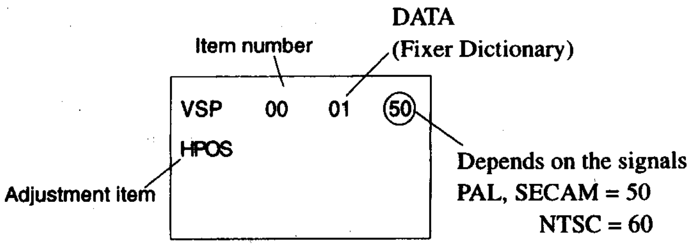
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio oscillator

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

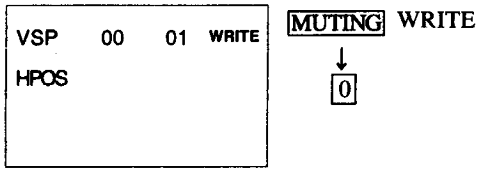
1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN


DATA
(Fixer Dictionary)
Item number
VSP 00 01 50
HPOS
Adjustment item
Depends on the signals
PAL, SECAM = 50
NTSC = 60

3. The CRT displays the item Being adjusted.
4. Press 1 or 4 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. If you want to recover the latest values press 7 then 0 to read the memory.
7. Press 5 then 0 to write initial data into memory.
8. Press MUTING then 0 to write into memory.

SERVICE ADJUSTMENT MODE MEMORY

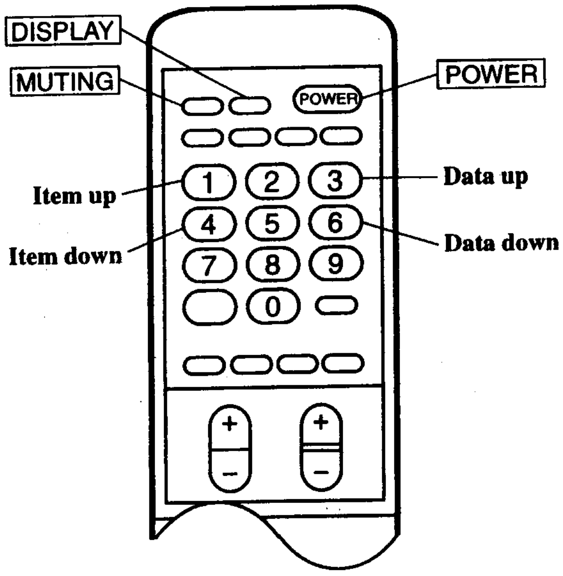

VSP 00 01 WRITE
HPOS
MUTING WRITE
0

9. Press 8 then 0 on the Remote Commander to initialize. (Be sure not to use usually)
10. Turn set off and on to exit.

2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again, confirm they were adjusted.

3. ADJUST BUTTONS AND INDICATOR



RM-901

4. SERVICE MODE LIST

VSP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
VSP	00	HPOS	0 ~ 63	28	28	H-SHIFT	CXD2018Q
	01	VSIZ	0 ~ 63	02	15	V-SIZE	
	02	VPOS	0 ~ 63	35	35	V-SHIFT	
	03	VSCO	0 ~ 15	07	07	S-CORRECTION	
	04	VLIN	0 ~ 15	08	08	V-LINEARITY	
	05	HSIZ	0 ~ 63	20	28	H-SIZE	
	06	HIPN	0 ~ 63	25	36	PIN-AMP	
	07	HKEY	0 ~ 31	15	15	TILT	
	08	UPCP	0 ~ 15	07	07	UPPER CORNER PIN	
	09	LOCP	0 ~ 15	06	06	LOWER CORNER PIN	
	10	HBOW	0 ~ 15	09	09	V-BOW	
	11	HSKE	0 ~ 15	08	08	V-ANGLE	

DP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
R GH	00	CENT	−127 ~ +128	07	00	GREEN. H CENTER	CXP85112B-613S
	01	SKEW	−127 ~ +128	00	00	GREEN. H SKEW	
	02	BOW	−127 ~ +128	−01	−01	GREEN. H BOW	
	03	4BOW	−127 ~ +128	00	00	GREEN. H 4th BOW	
	04	SIZE	−127 ~ +128	09	00	GREEN. H SIZE	
	05	LIN	−127 ~ +128	06	−20	GREEN. H LINEARITY	
	06	MSIZ	−127 ~ +128	16	16	GREEN. H MIDDLE SIZE	
	07	MLIN	−127 ~ +128	06	06	GREEN. H MIDDLE LINEARITY	
	08	KEY	−127 ~ +128	00	00	GREEN. H KEY	
	09	SSKW	−127 ~ +128	14	14	GREEN. H SUB SKEW	
	10	MPIN	−127 ~ +128	−04	47	GREEN. H MIDDLE PIN	
	11	PIN	−127 ~ +128	47	02	GREEN. H PIN	
	12	SBOW	−127 ~ +128	−16	−16	GREEN. H SUB BOW	
	13	MBOW	−127 ~ +128	04	04	GREEN. H MIDDLE BOW	
	14	4PIN	−127 ~ +128	−11	−03	GREEN. H 4th PIN	
	15	4SBOW	−127 ~ +128	00	00	GREEN. H 4th SUB BOW	
R GV	00	CENT	−127 ~ +128	00	00	GREEN. V CENTER	CXP85112B-613S
	01	SKEW	−127 ~ +128	00	00	GREEN. V SKEW	
	02	BOW	−127 ~ +128	16	16	GREEN. V BOW	
	03	SIZE	−127 ~ +128	−30	−06	GREEN. V SIZE	
	04	LIN	−127 ~ +128	22	22	GREEN. V LINEARITY	
	05	MSIZ	−127 ~ +128	−05	−05	GREEN. V MIDDLE SIZE	
	06	MKEY	−127 ~ +128	−05	−05	GREEN. V MIDDLE KEY	
	07	KEY	−127 ~ +128	−18	−18	GREEN. V KEY	
	08	SSKW	−127 ~ +128	01	01	GREEN. V SUB SKEW	
	09	MPIN	−127 ~ +128	−04	−04	GREEN. V MIDDLE PIN	
	10	PIN	−127 ~ +128	42	42	GREEN. V PIN	
	11	SBOW	−127 ~ +128	08	08	GREEN. V SUB BOW	
	12	WAVE	−127 ~ +128	−01	−01	GREEN. V WAVE	
	13	4PIN	−127 ~ +128	07	07	GREEN. V 4th PIN	
R RH	00	CENT	−127 ~ +128	−40	−04	RED. H CENTER	CXP85112B-613S
	01	SKEW	−127 ~ +128	00	00	RED. H SKEW	
	02	BOW	−127 ~ +128	06	06	RED. H BOW	
	03	4BOW	−127 ~ +128	−01	−01	RED. H 4th BOW	
	04	SIZE	−127 ~ +128	10	−02	RED. H SIZE	
	05	LIN	−127 ~ +128	31	16	RED. H LINEARITY	
	06	MSIZ	−127 ~ +128	12	12	RED. H MIDDLE SIZE	
	07	MLIN	−127 ~ +128	−09	−09	RED. H MIDDLE LINEARTTY	
	08	KEY	−127 ~ +128	−08	−08	RED. H KEY	
	09	SSKW	−127 ~ +128	04	04	RED. H SUB SKEW	
	10	MPIN	−127 ~ +128	54	54	RED. H MIDDLE PIN	
	11	PIN	−127 ~ +128	−01	−01	RED. H PIN	

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
R RH	12	SBOW	–127 ~ +128	07	07	RED. H SUB BOW	
	13	MBOW	–127 ~ +128	21	21	RED. H MID BOW	
	14	4PIN	–127 ~ +128	–10	00	RED. H 4th PIN	
	15	4SBOW	–127 ~ +128	–13	00	RED. H 4th SUB BOW	
R RV	00	CENT	–127 ~ +128	00	–43	RED. V CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	RED. V SKEW	
	02	BOW	–127 ~ +128	17	17	RED. V BOW	
	03	SIZE	–127 ~ +128	70	00	RED. V SIZE	
	04	LIN	–127 ~ +128	24	24	RED. V LINEARITY	
	05	MSIZ	–127 ~ +128	–05	–05	RED. V MIDDLE SIZE	
	06	MKEY	–127 ~ +128	05	05	RED. V MIDDLE KEY	
	07	KEY	–127 ~ +128	05	05	RED. V KEY	
	08	SSKW	–127 ~ +128	01	01	RED. V SUB SKEW	
	09	MPIN	–127 ~ +128	–07	–07	RED. V MIDDLE PIN	
	10	PIN	–127 ~ +128	09	09	RED. V PIN	
	11	SBOW	–127 ~ +128	10	10	RED. V SUB BOW	
	12	WAVE	–127 ~ +128	29	29	RED. V WAVE	
	13	4PIN	–127 ~ +128	10	10	RED. V 4th PIN	
R BH	00	BSEL	0 / 1	01	00	RESISTRATION µ CON BSEL	CXP85112B-613S
	01	CENT	–127~ +128	–25	–08	BLUE. H CENTER	
	02	SKEW	–127 ~ +128	00	00	BLUE. H SKEW	
	03	BOW	–127 ~ +128	–01	–01	BLUE. H BOW	
	04	4BOW	–127 ~ +128	–03	–03	BLUE. H 4th BOW	
	05	SIZE	–127 ~ +128	–21	–21	BLUE. H SIZE	
	06	LIN	–127 ~ +128	–64	–64	BLUE. H LINEARITY	
	07	MSIZ	–127 ~ +128	22	22	BLUE. H MID SIZE	
	08	MLIN	–127 ~ +128	55	55	BLUE. H MID LINEARTIY	
	09	KEY	–127 ~ +128	–08	–08	BLUE. H KEYSTONE	
	10	SSKW	–127 ~ +128	24	24	BLUE. H SUB SKEW	
	11	MPIN	–127 ~ +128	34	34	BLUE. H MID PIN	
	12	PIN	–127 ~ +128	10	10	BLUE. H PIN	
	13	SBOW	–127 ~ +128	–34	–34	BLUE. H SUB BOW	
	14	MBOW	–127 ~ +128	–12	–12	BLUE. H MID BOW	
	15	4PIN	–127 ~ +128	–10	–01	BLUE. H 4th PIN	
	16	4SBOW	–127 ~ +128	05	05	BLUE. H 4th SUB BOW	
R BV	00	CENT	–127 ~ +128	00	–17	BLUE. V CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	BLUE. V SKEW	
	02	BOW	–127 ~ +128	13	13	BLUE. V BOW	
	03	SIZE	–127 ~ +128	45	–38	BLUE. V SIZE	
	04	LIN	–127 ~ +128	20	20	BLUE. V LINEARITY	
	05	MSIZ	–127 ~ +128	–07	–07	BLUE. V MIDDLE SIZE	
	06	MKEY	–127 ~ +128	–21	–21	BLUE. V MIDDLE KEY	
R BV	07	KEY	–127 ~ +128	67	67	BLUE. V KEY	CXP85112B-613S
	08	SSKW	–127 ~ +128	04	04	BLUE. V SUB SKEW	
	09	MPIN	–127 ~ +128	–07	–07	BLUE. V MIDDLE PIN	
	10	PIN	–127 ~ +128	–29	–29	BLUE. V PIN	
	11	SBOW	–127 ~ +128	10	10	BLUE. V SUB BOW	
	12	WAVE	–127 ~ +128	–40	–40	BLUE. V WAVE	
	13	4PIN	–127 ~ +128	15	15	BLUE. V 4th PIN	

MCD

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
MCD	00	MHUE	0 ~ 31	17	13	SUB HUE OF MAIN PICTURE	TDA9141

SCD

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
SCD	01	YDLY	0 ~ 15	01	01	Y DELAY	TDA9143

RGB

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
RGB	00	SHUE	0 ~ 31	28	16	SUB HUE OF SUB PICTURE	TDA4780
	01	SCOL	0 ~15	10	11	SUB COLOR	
	02	SBRT	0 ~ 63	21	10	SUB BRIGHTNESS	
	03	RAMP	0 ~ 63	31	31	RED GAIN	
	04	GAMP	0 ~ 63	31	31	GREEN GAIN	
	05	BAMP	0 ~ 63	31	48	BLUE GAIN	
	06	RCUT	0 ~ 63	31	31	RED LEVEL REFERENCE	
	07	GCUT	0 ~ 63	45	31	GREEN LEVEL REFERENCE	
	08	BCUT	0 ~ 63	31	48	BLUE LEVEL REFERENCE	
	09	PDL	0 ~ 63	30	20	PEAK DRIVE LIMIT	
	10	GNMA	0 ~ 63	40	40	GAMMA	
	11	ADBL	0 / 1	00	00	ADAPTIVE BLACK	
	12	RELC	0 / 1	01	01	RELATIVE TO CUT-OFF	
	13	TCPL	0 / 1	01	01	TIME CONSTANT PEAK DRIVE LIMITER	

PIP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
PIP	00	AXIS	0 / 1	01	01	RGB AXIS	SDA9188-3X
	01	RDV	0 ~ 15	08	08	V READ DELAY	
	02	RDH	0 ~ 63	16	16	H READ DELAY	
	03	FRY	0 ~ 15	04	04	BRIGHTNESS OF THE BORDER FRAME	
	04	9V50	0 ~ 7	03	03	MULTI P IN P V 50Hz	
	05	9H50	0 ~ 7	03	03	MULTI P IN P H 50Hz	
	06	9V60	0 ~ 7	03	03	MULTI P IN P V 60Hz	
	07	9H60	0 ~ 7	03	03	MULTI P IN P H 60Hz	

TXT

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
TXT	00	BOXP	0 ~ 15	00	00		TPU3040
	01	TXH	0 ~ 255	05	05	H START POSITION	
	02	TXV	0 ~ 63	44	44	V START POSITION	
	03	VSP	0 ~ 255	59	59	V STOP POSITION	
	04	BSP	0 ~ 255	61	61	BLANKING STOP	
	05	BST	0 ~ 255	53	53	BLANKING START	
	06	QSF	0 ~ 31	01	01	ACQUSITION SOFT SLICER	
	07	A7F	0 ~ 255	10	10	VALUE OF ADRESS 007FH	
	08	QDT	0 ~ 63	13	13	ACQUSITION DATA SLICER	
	09	CST	0 ~ 255	00	00	CLAMPING START	
	10	CSP	0 ~ 255	80	80	CLAMPING STOP	
	11	LMT	0 / 1	00	00	LIMIT SLICER ADAPTION SWITCH	
	12	GMX	0 ~ 255	31	31	GAIN MAX	
	13	FMX	0 ~ 255	32	31	FILTER MAX	

AP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
AP	00	TVER	0 ~ 3	03	03	TPU VERSION (TC20=3)	MSP3410
	01	FAW	0 ~ 255	10	10	NICAM FAW THRESHOLD	
	02	CTM	0 ~ 255	08	08	NICAM ERROR BIT THRESHOLD (MONO->NICAM)	
	03	CTN	0 ~ 255	80	80	NICAM ERROR BIT THRESHOLD (NICAM->MONO)	
	04	WGO	0 ~ 255	10	10	WEST GERMAN STEREO LOW THRESHOLD	
	05	WGS	0 ~ 255	21	21	WEST GERMAN STEREO HIGH THRESHOLD	
	06	WGT	0 ~ 255	80	80	WEST GERMAN STEREO LOW 2 THRESHOLD	
	07	WGB	0 ~ 255	234	234	WEST GERMAN STEREO HIGH 2 THRESH	
	08	ACG	0 / 1	01	01	AGC AUTO / CONSTANT SWITCH	
	09	CDB	0 ~ 63	40	40	AGC GAIN VALUE AT CONSTANT MODE	
	10	FMP	0 ~ 127	34	34	FM MONO PRESCALE	
	11	WGP	0 ~ 127	60	60	WEST GERMAN STEREO PRESCALE	
	12	INIP	0 ~ 127	127	127	I NICAM PRESCALE	
	13	CRM	0 / 1	00	00	CARRIER MUTE FUNCTION	
	14	ACO	0 / 1	01	01	AUDIO CLOCK OUT OFF/ON	

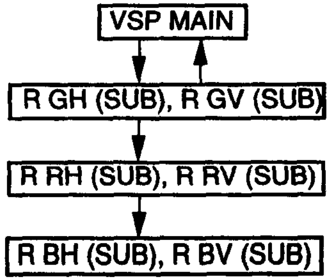
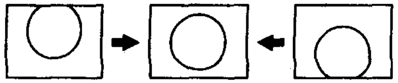
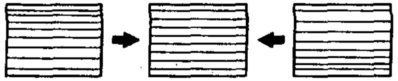
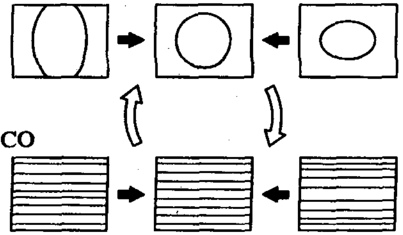
CPU

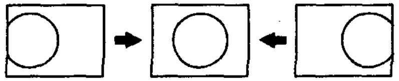
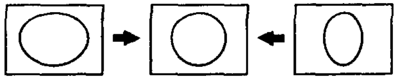
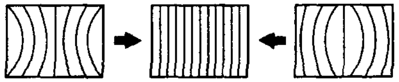
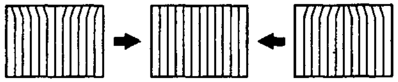
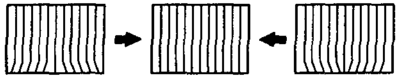
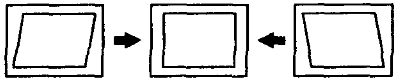
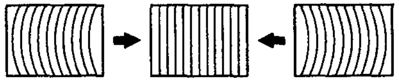
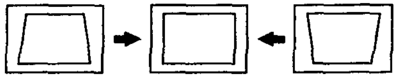
	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
CPU	00	WAC	0 ~ 15	01	01	WEST GERMAN STEREO JUDGE CONSTANT	CXP5400
	01	OSH	0 ~ 63	11	13	OSD H POSITION	
	02	ODL	0 ~ 256	15	15	POWER ON DELAY	
	03	WIDE	0 / 1	00	00	RELAY FOR W1DE MODEL 0 : 4 : 3 1 : 16 : 9	
	04	TWIN	0 / 1	00	00	0 : Sub V FIELD PROCESSING 1 : Sub V FRAM PROCESSING	
	05	DSPC	0 / 1	01	01	0 : ENABLE RECEIVE OF CHANNEL IDENTICAL TO TWIN PICTURE 1 : DISABLE RECEIVE OF CHANNEL IDENTICAL TO TWIN PICTURE	
	06	SFTE	0 / 1	*00	01	SIFT ENABLE	
	07	SFTF	0 / 1	00	00	SIFT CHECK FACTORY	
	08	3 BCN	0 ~ 255	10	10		

* After registration adjustment is comleted, set the initial value to " 01 ".

01 : As a countermeasure against CRT image burnout, picture slightly shifts left and right (every 2 hours).

00 : No shift of picture (adjustment mode)

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
CONVERGENCE ADJUSTMENT ●When replacing the deflection yoke, always perform "DEFLECTION YOKE TILT ADJUSTMENT" before adjusting the convergence. Adjustment procedure  VSP MAIN R GH (SUB), R GV (SUB) R RH (SUB), R RV (SUB) R BH (SUB), R BV (SUB)				
• GREEN REGISTRATION ADJUSTMENT			<VSP MENU>	
• V-SHIFT adjustment	Monoscope pattern or Crosshatch pattern		VSP VPOS	VPOS 
• V-LINEARITY adjustment			VSP VLIN	VLIN 
• V-SIZE, V-CORRECTION adjustment While tracking, adjust so that the lattice intervals for VSIZ and VSCO are equal.			VSP VSIZ VSP VSCO	VSIZ VSCO 

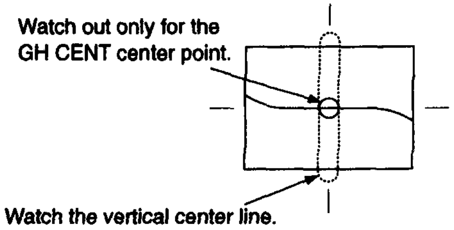
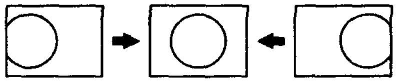
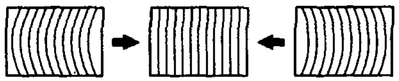
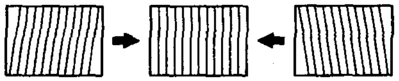
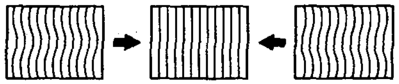
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
• H-SHIFT adjustment			VSP HPOS	HPOS 
• H-SIZE adjustment Finely adjust with SUB MSIZE.			VSP HSIZ	HSIZ 
• PIN-AMP adjustment Finely adjust with SUB MPIN.			VSP HPIN	HPIN 
• UPPER/LOWER-CORNER PIN adjustment Correct the screen top and bottom section line bow. However, if this adjustment is overdone, distortion may occur with the PIN-AMP adjustment that can not be adjusted away. Note : The PIN-AMP adjustment adjusts the overall screen from top to bottom, but the UPPER/LOWER-CORNER PIN adjustments have just large movement in the top and bottom sections, so be careful.			VSP UPCP VSP LOCP	UPCP  LOCP 
• V-ANGLE, V-BOW adjustment Correct the tilt and bow of the vertical line at the center of the screen.			VSP HSKE VSP HBOW	HSKE  HBOW 
• TILT adjustment Adjust to eliminate the tilt of one of the two vertical lines at both ends of the screen.			VSP HKEY	HKEY 

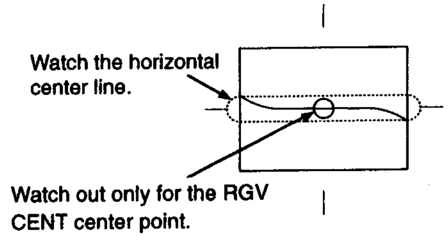
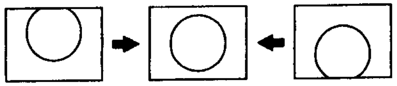
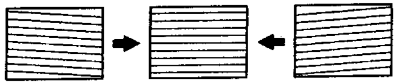
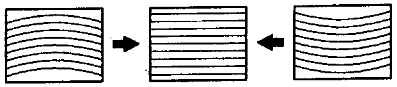
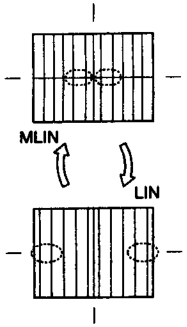
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER

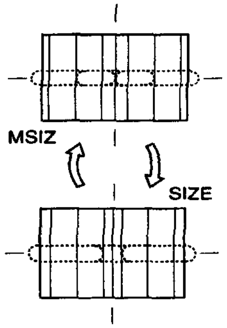
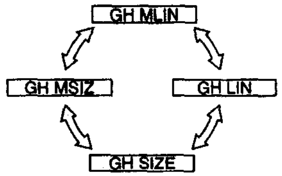
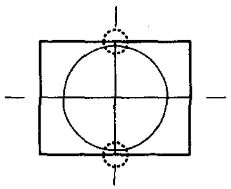
CONVERGENCE SUB ADJUSTMENT

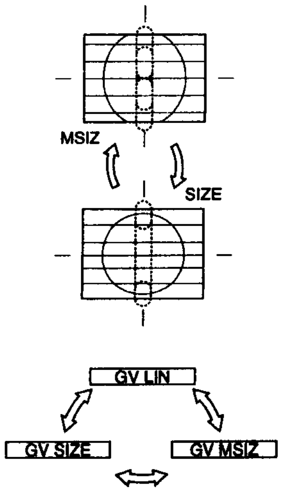
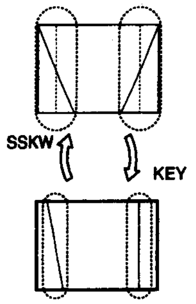
Adjustment O : Yes – : No

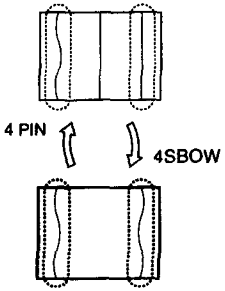
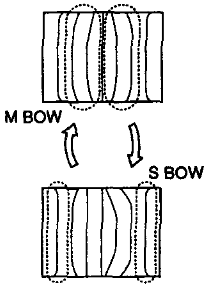
Display	Adjustment item	Adjustment type					
		RGH	RGV	RRH	RRV	RBH	RBV
BSEL	COL SELECT	–	–	–	–	O	–
CENT	CENT	O	O	O	O	O	O
SKEW	SKEW	O	O	O	O	O	O
BOW	BOW	O	O	O	O	O	O
4BOW	4TH BOW	O	–	O	–	O	–
SIZE	SIZE	O	O	O	O	O	O
LIN	LIN	O	O	O	O	O	O
MSIZ	MID SIZE	O	O	O	O	O	O
MLIN	MID LIN	O	O	O	–	O	–
MKEY	MID KEY	–	O	–	O	–	O
KEY	KEY	O	O	O	O	O	O
SSKW	SUB SKEW	O	O	O	O	O	O
MPIN	MID PIN	O	O	O	O	O	O
PIN	PIN	O	O	O	O	O	O
SBOW	SUB BOW	O	O	O	O	O	O
WAVE	WAVE	–	O	–	O	–	O
MBOW	MID BOW	O	–	O	–	O	–
4PIN	4TH PIN	O	O	O	O	O	O
4SBOW	4TH SUB BOW	O	–	O	–	O	–

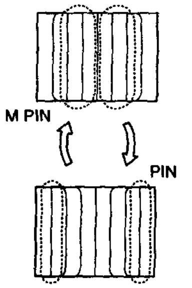
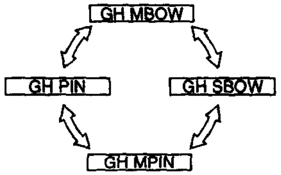
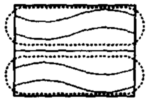
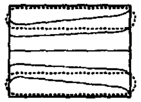
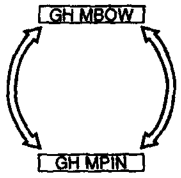
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
• GREEN SUB ADJUSTMENT **SCREEN CENTER SECTION GREEN VERTICAL LINE ADJUSTMENT** 1. Finely adjust with RGH CENT, RGH BOW, RGH SKEW. Adjust watching out for the RGH CENT screen center section.			<RGH MENU> RGH CENT RGH BOW RGH SKEW	 Watch out only for the GH CENT center point. Watch the vertical center line. RGH CENT  RGH BOW  RGH SKEW 
2. RGH 4TH BOW adjustment Correct the corner distortion that could not be adjusted away with the RGH BOW adjustment.			RGH 4BOW	RGH 4BOW 

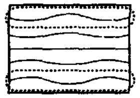
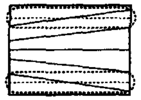
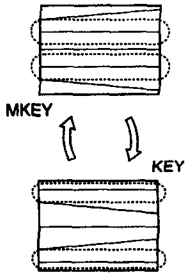
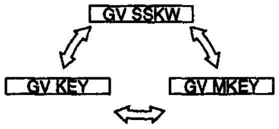
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
SCREEN CENTER SECTION GREEN HORIZONTAL LINE ADJUSTMENT			<RGV MENU>	
1. Finely adjust the center position of the vertical line at the center of the screen with RGV CENT.			RGV CENT	 Watch the horizontal center line. Watch out only for the RGV CENT center point. RGV CENT 
2. Correct the tilt and bow of the horizontal line at the center of the screen with RGV SKEW and RGV BOW.			RGV SKEW RGV BOW	RGV SKEW  RGV BOW 
GREEN SIZE AND LINEARITY ADJUSTMENT			<RGH MENU>	
1. Balance the sizes at both sides of the center section of the screen with RGH MLIN. 2. Balance the sizes on both end sections of the screen with RGH LIN. 3. While tracking, adjust with RGH MLIN and RGH LIN so that the sizes of the horizontal line at the center of the screen are symmetrical left and right.			RGH MLIN RGH LIN	

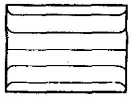
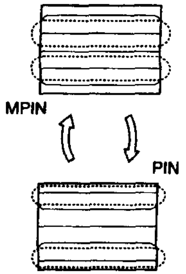
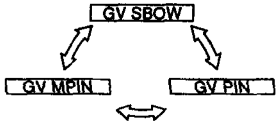
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN HORIZONTAL SIZE ADJUSTMENT 1. Adjust with RGH MSIZE so that the sizes of both edges and of both sides of the center section of the screen are equal. 2. Adjust with RGH SIZE so that the horizontal sizes of both edges and of both sides of the center section of the screen are equal. 3. While tracking, adjust with RGH MSIZ and RGH SIZE so that the lattice intervals for the horizontal line section of the center section of the screen are equal and so that the horizontal size is the prescribed value. 4. If M LIN is changed when the RGH MSIZ and RGH SIZE adjustment is complete, adjust again while tracking.			<RGH MENU> RGH MSIZ RGH SIZE	 
●With just the H SIZE adjustment in MAIN, if there is no need to adjust RGH SIZE in SUB this can save power.				
GREEN VERTICAL LINEARITY ADJUSTMENT 1. Adjust RGV LIN so that the vertical lines at the top and bottom of the screen are symmetrical.			<RGV MENU> RGV LIN	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN VERTICAL SIZE ADJUSTMENT 1. Adjust with RGV MSIZE so that the sizes for the top and bottom sections of the screen and for both sides of the center section of the screen are equal. 2. Set the vertical size to the prescribed value with RGV SIZE. 3. Adjust RGV MSIZ and RGV SIZE watching the vertical line at the center section of the screen. 4. While tracking, adjust with RGV MSIZ and RGV SIZE so that the lattice intervals for the vertical line section of the center section of the screen are equal and so that the vertical size is the regulation value. 5. If RGV LIN is out of place when the RGV MSIZ and RGV SIZE adjustment is complete, adjust again while tracking. ●If there is no need to adjust RGV SIZE in SUB with just the V SIZE adjustment in MAIN, this can save power.			<RGV MENU> RGV MSIZ RGV SIZE	
GREEN HORIZONTAL TRAPEZOIDAL DISTORTION ADJUSTMENT 1. Adjust with RGH SSKW so that the tilt of the vertical lines at both edges of the screen is symmetrical left and right. 2. Adjust with RGH KEY so that there is no tilt in the vertical lines at both edges of the screen. 3. If there is a tilt on either the left or right after the RGH KEY adjustment, adjust while tracking.			<RGV MENU> RGH SSKW RGH KEY	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN HORIZONTAL QUATERNARY ADJUSTMENT 1. Correct the quaternary distortion with RGH 4PIN. 2. While balancing, correct the quaternary distortion of both end sections of the screen with RGH 4SBOW. 3. While tracking, adjust with RGH 4PIN and RGH 4SBOW.			<RGH MENU> RGH 4PIN RGH 4SBOW	
GREEN HORIZONTAL ASYMMETRICAL PIN DISTORTION ADJUSTMENT 1. Adjust with RGH MBOW so that the pin asymmetry at both sides of the center section of screen is symmetrical. 2. Adjust with RGH SBOW so that the bow at both end sections of the screen is symmetrical left and right. 3. While tracking, adjust with RGH MBOW and RGH SBOW so that the bow of vertical lines on the entire screen is symmetrical left and right.			<RGH MENU> RGH MBOW RGH SBOW	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN HORIZONTAL SYMMETRICAL PIN DISTORTION ADJUSTMENT 1. Adjust the pin distortion at both sides of the center section of the screen with RGH MPIN. 2. Adjust the pin distortion at both end sections of the screen with RGH PIN. 3. While tracking, adjust with RGH MPIN and RGH PIN so that the PIN of vertical lines on the entire screen have no bowing. 4. If there is asymmetrical pin distortion after the RGH MPIN and RGH PIN adjustments, adjust with RGH MBOW and RGH SBOW while tracking. ●With just the PIN AMP adjustment in MAIN, if there is no need to adjust RGV PIN in SUB, this can save power.			<RGH MENU> RGH MPIN RGH PIN RGH MBOW RGH SBOW	 
GREEN VERTICAL WAVE (TERTIARY DISTORTION) ADJUSTMENT 1. Take the screen top and bottom horizontal lines with RGV WAVE and find the secondary and quaternary waveform. 2. There is KEY distortion after the RGV WAVE adjustment, so adjust with GV WAVE and RGV KEY while tracking.			<RGV MENU> RGV WAVE RGV KEY	RGV WAVE  RGV KEY  

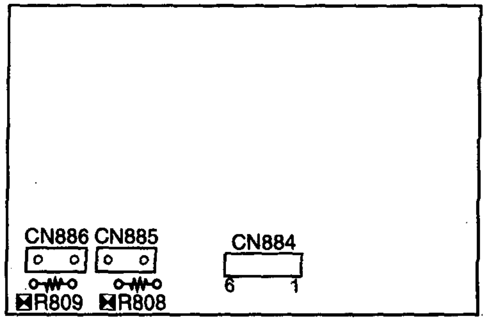
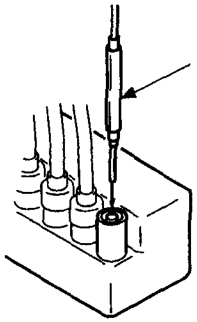
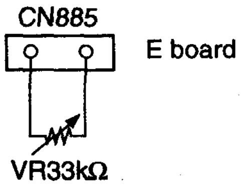
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN VERTICAL QUATERNARY DISTORTION ADJUSTMENT 1. Correct the quaternary distortion of the horizontal lines at the top and bottom sections of the screen with RGV 4PIN. 1) Since there is no 4SBO for vertical correction, there will be a slight imbalance, but adjust to eliminate the distortion from the horizontal line at either the top or the bottom of the screen. 2) In many cases, the horizontal lines at the top and bottom sections of the screen are not straight lines after the adjustment. As long as the secondary distortion is mild enough that it can be corrected with the PIN adjustment, this is OK.			<RGV MENU> RGV 4PIN	RGV 4PIN 
GREEN VERTICAL TRAPEZOIDAL DISTORTION ADJUSTMENT 1. Adjust with RGV SSKW so that the tilt of the horizontal lines at the top and bottom sections of the screen is symmetrical about the center position horizontal line. 2. Adjust with RGV MKEY so that there is no tilt for the line sections at both sides of the horizontal lines at the center section of the stream. 3. Adjust with RGV KEY so that there is no tilt for the horizontal lines at the top and bottom sections of the screen. 4. While tracking, adjust with RGV MKEY and RGV KEY so that there is no tilt for the horizontal lines on the entire screen.			<RGV MENU> RGV SSKW RGV MKEY RGV KEY	RGV SSKW  
5. If the tilt is unbalanced after the RGV MKEY and RGV KEY adjustment, adjust again with RGV SSKW.			RGV SSKW	

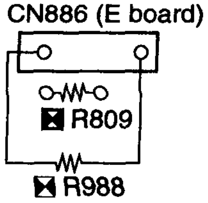
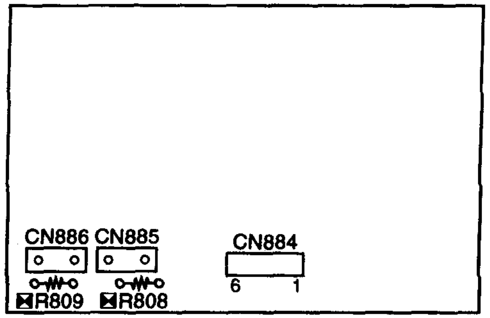
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN VERTICAL ASYMMETRICAL PIN DISTORTION (SECONDARY DISTORTION) ADJUSTMENT 1. Correct the asymmetrical pin distortion at the top and bottom sections of the screen with RGV SBOW.			<RGV MENU> RGV SBOW	RGV SBOW 
GREEN VERTICAL ASYMMETRICAL PIN DISTORTION ADJUSTMENT 1. Adjust the pin distortion for both side sections and the center of the screen with RGV MPIN. 2. Adjust with RGV PIN so that the horizontal lines at the top and bottom sections of the screen are straight lines. 3. Adjust with RGV MPIN and RGV PIN so that there is no curve in the horizontal lines on the entire screen.			<RGV MENU> RGV MPIN RGV PIN	
4. After the adjustments in Items 1-3, adjust the tracking with RGV SBOW, RGV MPIN, and RGV PIN.			RGV SBOW	

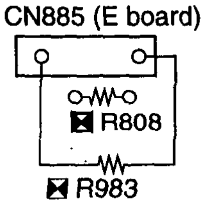
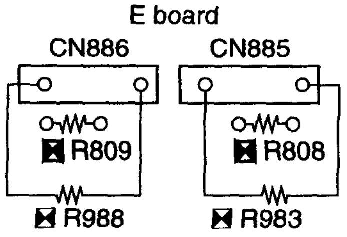
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN AND RED REGISTRATION ADJUSTMENT (RRH, RRV) 1. Receive a PAL cross-hatch signal. 2. Adjust so that the red lines lay on the green lines. Adjust with the same procedure as the GREEN SUB adjustment. Notes: 1. The main correction is not carried out during red registration adjustment. 2. Beware. The green adjustment items can be changed by mistake. 3. Unlike for green, adjust within the range -127 ~ +128.	PAL Cross-hatch pattern			
GREEN AND BLUE REGISTRATION ADJUSTMENT (RBH, RBV) 1. Receive a PAL cross-hatch signal. 2. Adjust so that the blue and green lines are on top of each other. Notes : 1. The main correction is not carried out during RED registration adjustment. 2. Beware. The GREEN and RED adjustment items can be changed by mistake.	PAL Cross-hatch pattern			

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
AGC ADJUSTMENT				
1. Receive an off-air signal.				
2.Adjust the AGC VR (IF 1002, IF1003) so that there is no snow noise and cross-modulation.				
WHITE BALANCE ADJUSTMENT				
1. Receive the monoscope pattern signal and adjust the picture quality with the menu.	Monoscope pattern		PICTURE .... minimum < RGB MENU >	
2. Adjust service mode SBRT so that the signal 10 IRE section barely glows.			SBRT	
3. Receive the all-white pattern signal.	All White pattern			
4. Adjust the white balance with service mode GCUT and BCUT.			GCUT BCUT	
5. Adjust service mode SBRT so that the signal 100 IRE section barely glows.				
6. Adjust the white balance with service mode GAMP and BAMP.			PICTURE .... minimum GAMP BAMP	
7. Repeatedly adjust the white balance for the minimum and maximum picture settings.			PICTURE .... maximum	

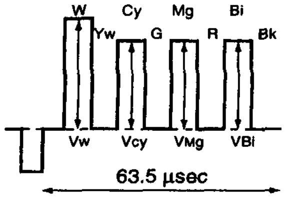
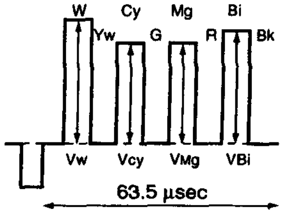
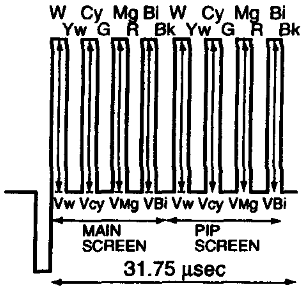
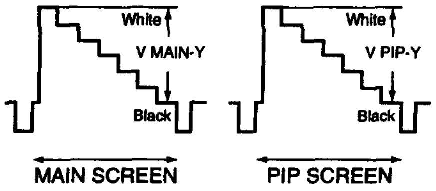
SECTION 4
SAFETY RELATED ADJUSTMENTS

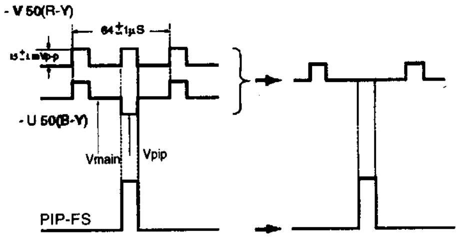
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
HV HOLD DOWN CIRCUIT OPERATIONS CHECK AND ADJUSTMENT (☒ RESISTOR) When replacing the parts marked ◪ on the right, check the HV hold down and adjust.		◪ marked parts C818, D804, D806, D809, D909, D912, Q915, R809, R855, R856, R857, R858, R883, R954, R955, R984, R988, R991, R995, R996, T801(FBT),T803 .... E board HV Block	☒ R809, R988	E BOARD - COMPONENT SIDE - 
1. Remove the cap for the unconnected pin in the high-voltage block and connect a Static Voltmeter. 2. Input 240 VAC power.	Static Voltmeter	HV Block		Remove the cap off from the unused terminal and connect a static voltmeter there.
3. Receive the Dot siganl and set the PICTURE and BRIGHTNESS settings to their minimums.	Dot pattern		PICTURE .... minimum BRIGHTNESS .... minimum	
4. Connect a 33 k variable resistor across the E board CN885 connector (with the variable resistor set to its maximum).				

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
5. Gradually lower the value of the variable resistor and check that the hold down circuit operates at a Static Voltmeter reading of 33.70 ± 0.80 kVDC and that the rasters disappear.				33.70 ± 0.80 kVDC
6. If the hold down circuit operates and the rasters disappear at a Static Voltmeter reading of 34.0kVDC or higher, remove resistor R809 and mount a 16.0 k 1/4W RN at R988.			R988	34.0 kVDC or higher 16.0 k 1/4W 
If the hold down circuit operates and the rasters disappear at a Static Voltmeter reading of 32.0 kVDC or lower, remove resistor R809 and mount 6.2 k 1/4W RN at R988.			R988	32.0 kVDC or lower 6.2 k 1/4W
7. Check Item 5 again.				
HV REGULATION CIRCUIT CHECK AND ADJUSTMENT (⊠ RESISTOR) When replacing the parts marked ◪ on the right, check the HV regulation and adjust.		◪ marked parts C918, C930, C934, C980, D902, D920, D925, Q909, R808, R851, R929, R936, R939, R942, R944, R945, R946, R947, R950, R960, R965, R967, R971, R975, R976, R982, R983, R985, R998 .... E Board HV Block	⊠ R808, R983	E BOARD – COMPONENT SIDE – 
1. Remove the cap for the unconnected pin in the high-voltage block and connect a Static Voltmeter.	Static Voltmeter	HV Block		
2. Input 240 VAC power.				
3. Receive the Dot signal and set the PICTURE and BRIGHTNESS settings to their minimums.	Dot pattern		PICTURE .... minimum BRIGHTNESS .... minimum	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
4. Check that the Static Voltmeter reading is 31.0 ± 0.5 kVDC.				31.0 ±0.5 kVDC
5. If the Static Voltmeter reading is 30.4 kVDC or lower, remove resistor R808 and mount 5.6 k 1/4W RN at R983.			R983	30.4 kVDC or lower 5.6 k 1/4W
6. If the Static Voltmeter reading is 31.5 kVDC or higher, remove resistor R808 and mount 8.2 k 1/4W RN at R983.			R983	31.5 kVDC or higher 8.2 k 1/4W
7. If the Static Voltmeter reading is 32.0 kVDC or higher, remove resistor R808 and mount 10.0 k 1/4W RN at R983.			R983	32.0 kVDC or higher 10.0 k 1/4W
8. If any of Items 5, 6 or 7 has been implemented, check Item 4 again.				
HV HOLD DOWN AND HV REGULATOR SIMPLE ADJUSTMENT				
It is normally desirable that the HV hold down and HV regulation checks use a Static-voltmeter. However, sometime one is not available, for example in the field, below is a simple adjustment method.				
When replacing parts with the ◪ mark, replace both the resistors with the ⊠ mark R808 (R988) and R809 (R983) with resistors one rank lower in the E-12 series. Do not replace just one of these resistors. Always replace both with resistors one rank lower.			R808 (R988) R809 (R983)	 E board CN886 CN885 ⊠ R809 ⊠ R808 ⊠ R988 ⊠ R983

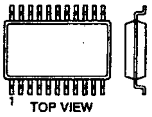
SECTION 5
ELECTRICAL ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
B BOARD ADJUSTMENT **SUB COLOR (SCOL) ADJUSTMENT** 1. Input the PAL Color Bar signal and adjustment the picture control. 2. Set to service mode. 3. Connect an oscilloscope between ⑤ pin of CN201 and ground. 4. Adjust SCOL so that Vcy = VMg = VBi in the waveform levels. 5. Write the data to memory.	PAL Color Bar pattern Oscilloscope	CN201 ⑤ pin (B(2/3) Board)	PICTURE .... 80% RGB SCOL : Vcy =VMg=VBi	<CN201 ⑤ pin>  W Cy Mg Bi Yw G R Bk Vw Vcy VMg VBi 63.5 µsec
SUB HUE (MHUE,SHUE) ADJUSTMENT 1. Input the NTSC Color Bar signal. 2. Set to service mode. 3. Connect an oscilloscope between ⑤ pin of CN201 and ground. 4. Adjust MHUE so that Vcy = VMg in the waveform levels. 5. Write the data to memory.	NTSC Color Bar pattern Oscilloscope	CN201 ⑤ pin (B(2/3) Board)	MCD MHUE : Vcy =VMg	<CN201 ⑤ pin>  W Cy Mg Bi Yw G R Bk Vw Vcy VMg VBi 63.5 µsec
(PIP MODE) 1. Input the NTSC Color Bar signal. 2. Select PIP on screen mode and put the set into service mode. 3. Connect an oscilloscope between ⑤ pin of CN201 and ground. 4. Adjust SHUE so that Vcy = VMg in the waveform levels. 5. Write the data to memory.	NTSC Color Bar pattern Oscilloscope	CN201 ⑤ pin (B(2/3) Board)	SCD SHUE : Vcy =VMg	(PIP MODE) < CN201 ⑤ pin >  W Cy Mg Bi W Cy Mg Bi Yw G R Bk Yw G R Bk Vw Vcy VMg VBi Vw Vcy VMg VBi MAIN SCREEN PIP SCREEN 31.75 µsec
SUB CONTRAST ADJUSTMENT (PIP MODE) 1. Input the PAL Color Bar signal. 2. Select PIP on screen mode and put the set into service mode. 3. Connect an oscilloscope Q14 emitter on the B(1/3) board and ground. 4. Adjust SCON so that V MAIN-Y = V PIP-Y in the waveform levels. 5. Write the data to memory.	PAL Color Bar pattern Oscilloscope	Q14 emitter (B(1/3) Board)	PIP SCON: V MAIN-Y =V PIP-Y	(PIP MODE) < B(1/3) board - Q14 emitter >  White V MAIN-Y Black White V PIP-Y Black MAIN SCREEN PIP SCREEN

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
SUB WHITE BALANCE ADJUSTMENT (PIP MODE) 1. Input Gray Scale signal 20 IRE. 2. Select PIP in screen mode and put the set into service mode. 3. Connect an oscilloscope Q15 emitter on the B(1/3) board and ground. 4. Adjust RV1 so that V main = Vpip in the waveform levels. 5. Connect an oscilloscope Q16 emitter on the B(1/3) board and ground. 6. Adjust RV2 so that V main = Vpip in the waveform levels.	Oscilloscope	[B(1/3) Board] Q15 emitter (R-Y) Q16 emitter (B-Y) Q35 emitter (PIP-FS)	[B(1/3) Board] RV1 (R-Y) RV2 (B-Y)	< Q15 emitter, Q16 emitter >  - V 50(R-Y) 64±1µS 15±1 mVp-p - U 50(B-Y) Vmain Vpip PIP-FS
P IN P POSITION ADJUSTMENT 1. Upon receiving the Monoscope signal. 2. Set service mode and then press the PIP command twice. The P in P positon will then move periodically to four points. Adjust " RDV " and " RDH " on the new screen so that the four points are distributed equally at ; up, down, left and right. 3. Write the data to memory.	Monoscope pattern		< PIP MENU > RDV RDH	
TEXT POSITION ADJUSTMENT 1. Receive the RF signal with TEXT. 2. Set to service mode. 3. Set the TEXT in MIX mode and adjust the screen positon with " TXH " and " TXV ". 4. Write the data to memory.			< TXT MENU > TXH (H position) TXV (V position)	
OSD POSITION ADJUSTMENT 1. Receive the PAL Color Bar signal. 2. Set to service mode. 3. Adjust " OSH " so that the center line of the signal and the center of the crosshairs of the OSD display match are aligned with each other. 4. Write the data to memory.	PAL Color Bar pattern		< CPU MENU > OSH	

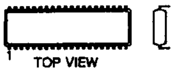
6-5. SEMICONDUCTORS

LM358D
NJM2234M
NJM2235M
NJM2240M
TDA2822D



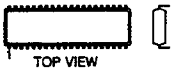
8 pin

MC74HC163AF
MC74HC4053F
MC74HC4538F
IR3M02A
TDA4665T-T



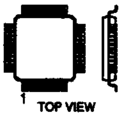
16 pin

CXA1855S



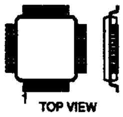
48 pin

CXD2018Q



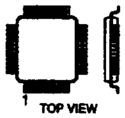
48 pin

CXD2024AQ



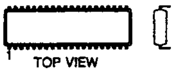
80 pin

CXP85460-033Q



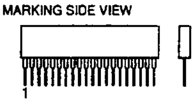
64 pin

CXP85112B-613S



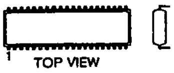
64 pin

CX20125


MARKING SIDE VIEW
1

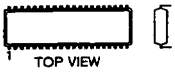
8 pin

IR2112



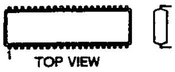
14 pin

LA7856A
PA0053B



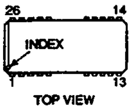
18 pin

LM393P
M5218P
ST24016CM1-TR/A
µPC393C

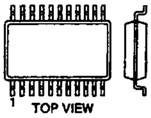


8 pin

MB81C1000A-70PJ-T5

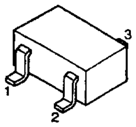

26
14
INDEX
1
13
TOP VIEW

MC14066BF

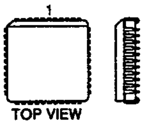


14 pin

MN1382S

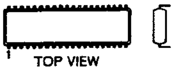


MSP3410
TPU3040



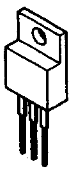
44 pin

NJM2058D

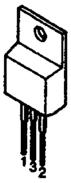


8 pin

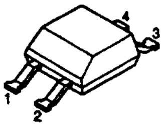
L7805CP
MC7805CT
PQ09RF2
TA7805S
TA7812S



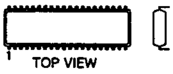
LM7912CT
MC7905CT
NJM7912FA



PC123F2

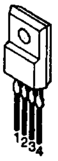


PM0002B

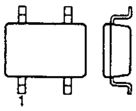


42 pin

PQ05RF1

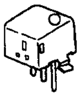


PQ12RF1

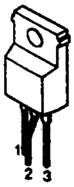


4 pin

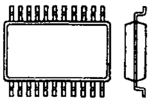
SBX1780-51



SE-135N

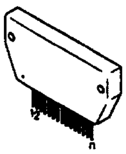


SDA9187-2XGEG
SDA9188-3XGEG

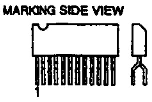


28 pin

STK392-010

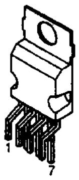

1
n
MARKING SIDE VIEW

TDA6101Q/N3

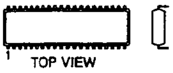

MARKING SIDE VIEW
1

9 pin

STV9379

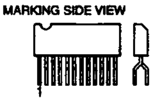


TDA4780/V3



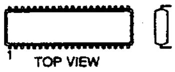
28 pin

TDA7265


MARKING SIDE VIEW
1

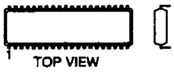
11 pin

TDA9143
TDA9160A



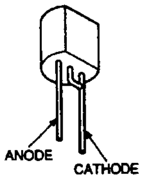
32 pin

µPC339C

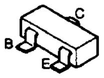


14 pin

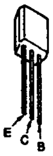
µPC574J


ANODE
CATHODE

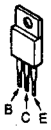
DTA114EKA-T146
DTA144EKA-T146
DTC144EKA-T146
2SA1037K-T-146-QR
2SA1162G
2SB709A-QRS-TX
2SC1623-L5L6
2SC2412K-QR
2SC2712-YG
2SD601A-Q



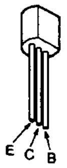
DTA144ESA
DTC124ESA



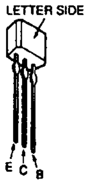
IRFI640LF
IRFI744G-LF
2SA1837
2SC4793



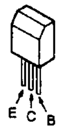
2SA1013-O
2SA1208



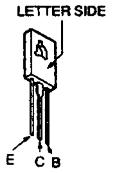
2SA1175-HFE
2SA1309A-QRS
2SC2785-HFE
2SC3311A-QRSTA


LETTER SIDE
E
C
B

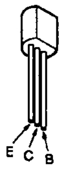
2SA1221-L
2SA1221-T-M
2SB733-34
2SB734-B4
2SB734-T-4
2SD774-34



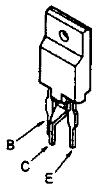
2SB649A
2SC2668-LK


LETTER SIDE
E
C
B

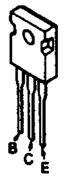
2SC2878-AB



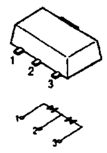
2SC4632LS-CB7
2SD1887-CA



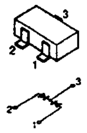
2SD2348LBSONY



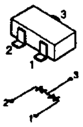
BAS16



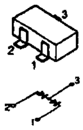
DAN202K



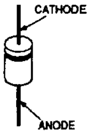
DAP202K



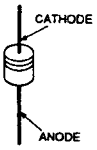
DA204K
1SS226



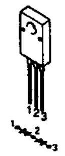
EL1Z
GP08D(GP08DPKG23)
P6KE200AG23
RGP02-20EL-6394
RGP10GPKG23
S2L40F
UF4005PKG23
1SS83


CATHODE
ANODE

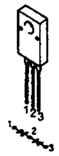
D1N20R
ERA82-004TP5
MTZJ-13
MTZJ-3.6A
MTZJ-T-77-24
MTZJ-T-77-3.6
RD13ES-B2
RD20ES-B1
RD20ES-B2
RD3.3ES-B2
RD3.9ES-B1
RD33ES-B2
RD39ES-B2
RD5.1ES-B2
RD5.6ES-B2
RD9.1ES-B1
1SS119-25
1SS133T-77
11EQS04


CATHODE
ANODE

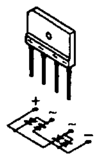
D10SC4M



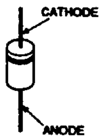
D10SC4M
D8LC40



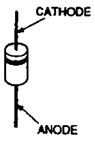
D6SB60L
RBA-4068



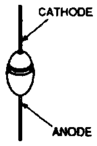
D2S4M


CATHODE
ANODE

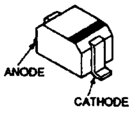
D3S4M-F
EGP10D
ERC04-06S
ERC06-15S
ERC91-02
RU-IC
S2LA20F


CATHODE
ANODE

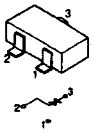
ERC38-06
U05G
V09C
V19E


CATHODE
ANODE

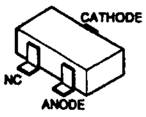
MA110


ANODE
CATHODE

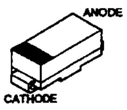
MA3100H
MA3051M
MA3075M-TX
RD13M-B3
RD3.9M-B1
RD5.1M-B2
RD7.5M-B2



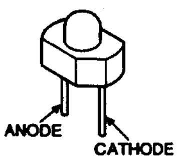
MA3240-TX


CATHODE
NC
ANODE

SC802-06


ANODE
CATHODE

SLR-325VCT31

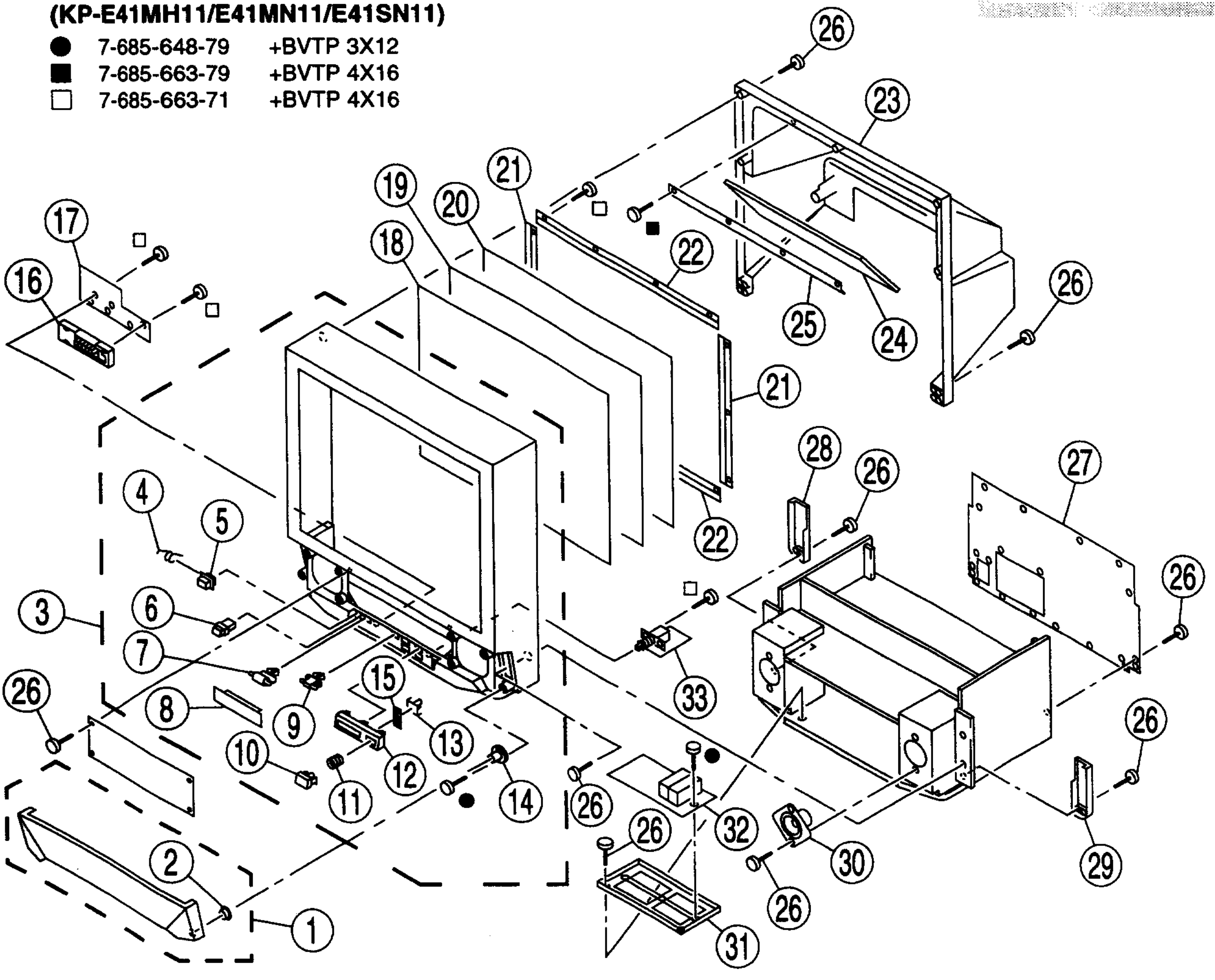

ANODE
CATHODE

anticipated when ordering these items.

Ne les remplacer que par une
piece portant le numero specifie.

7-1. COVER
(KP-E41MH11/E41MN11/E41SN11)

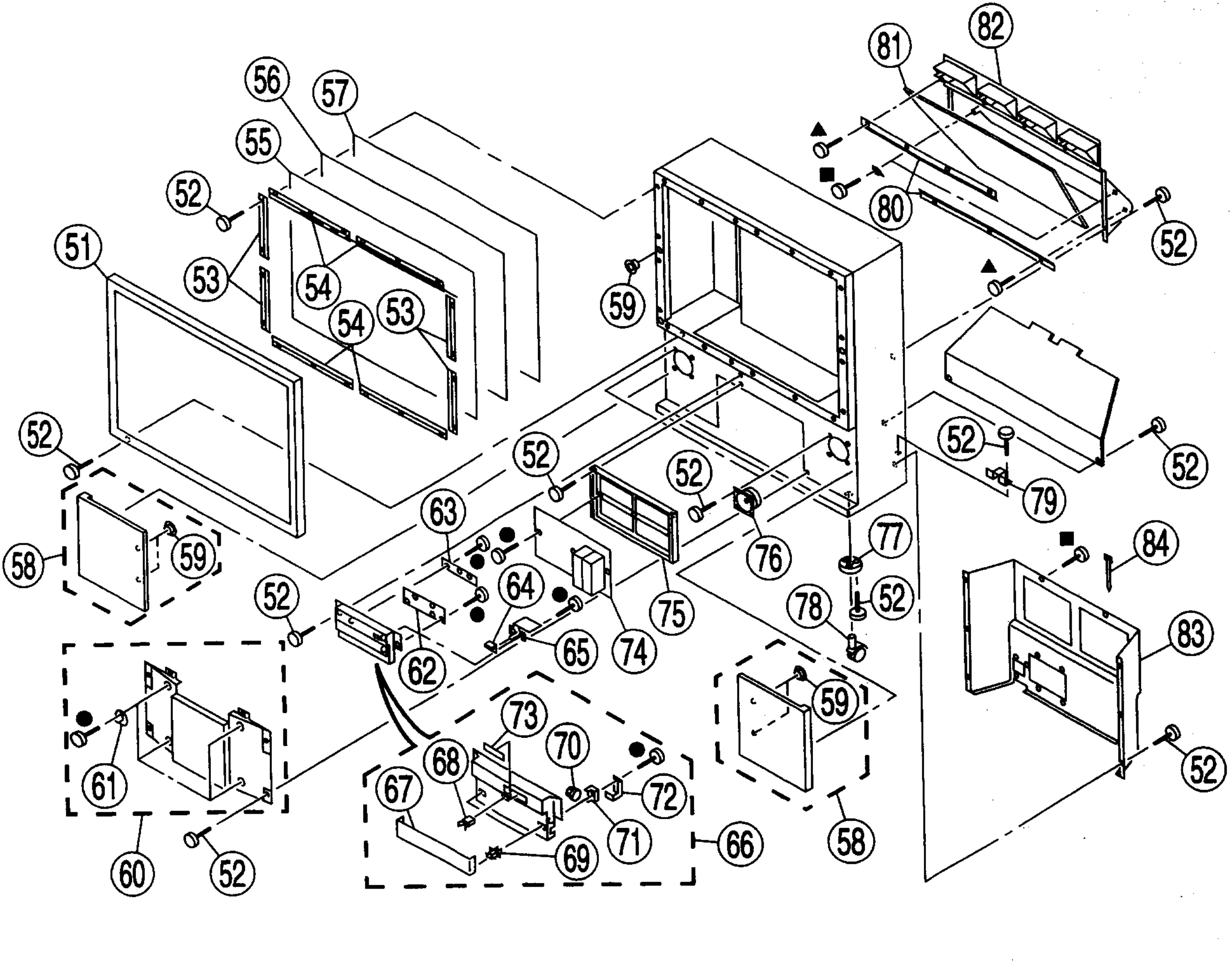
●	7-685-648-79	+BVTP 3X12
■	7-685-663-79	+BVTP 4X16
□	7-685-663-71	+BVTP 4X16



26
23
21
19
20
22
17
18
16
26
25
24
21
28
26
27
4
5
26
3
6
7
22
33
26
8
15
9
13
10
12
11
14
26
26
32
2
30
29
26
1
26
31

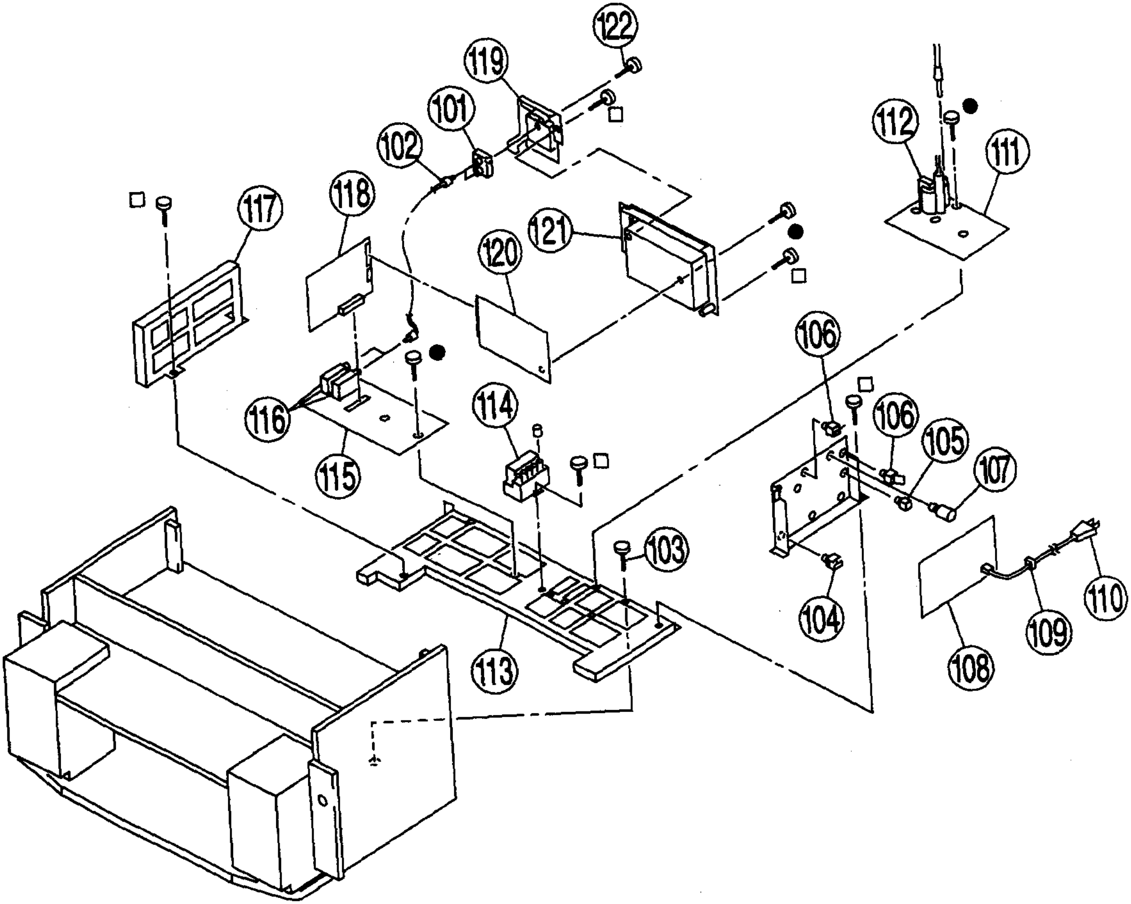
7-2. COVER
(KP-E53MH11/E53MN11/E53SN11)

●	7-685-648-79	+BVTP 3X12
■	7-685-661-79	TAPPING SCREW DIA.4X12
☐	7-685-663-79	+BVTP 4X16


51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
▲
■
●

7-3. CHASSIS

● 7-685-648-79 +BVTP 3X12
☐ 7-685-663-71 +BVTP 4X16

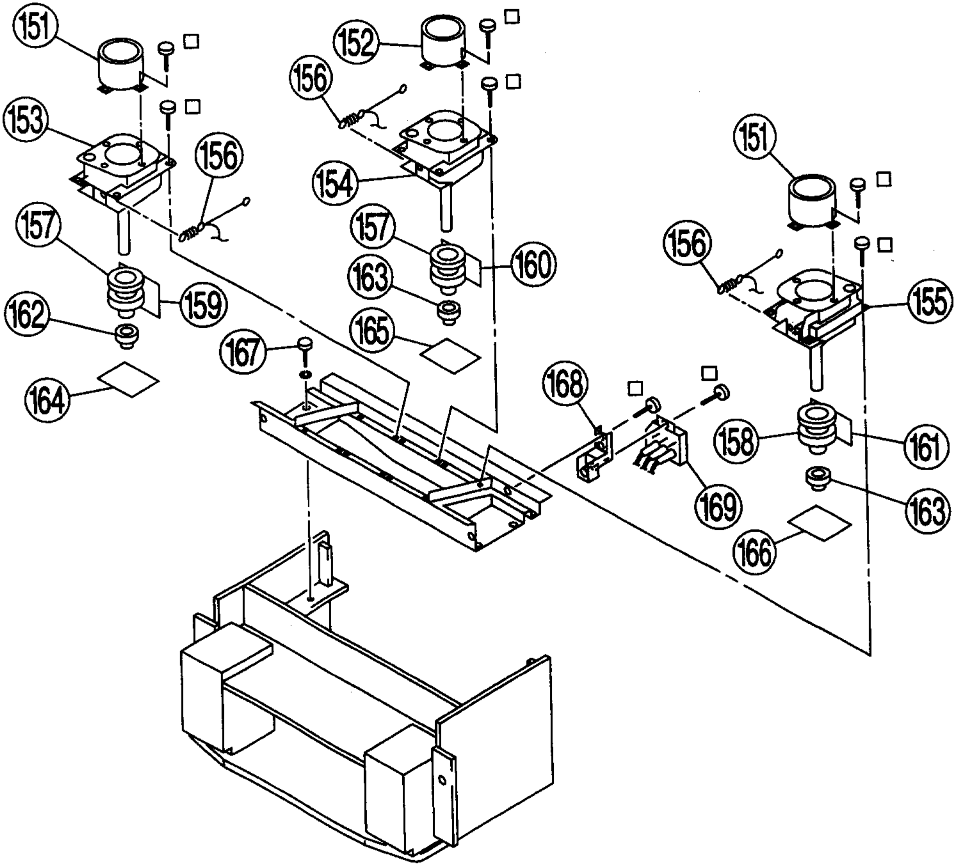

122
119
101
102
112
111
117
118
121
120
106
116
114
106
105
115
107
103
104
110
109
113
108

specified.

piece portant le numero specifie.

7-4. PICTURE TUBE

☐ 7-685-663-71 +BVTP 4X16

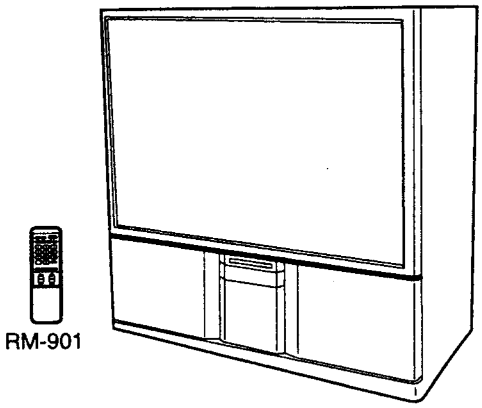

151
☐
☐
152
☐
☐
156
153
156
151
☐
154
157
☐
157
160
156
163
155
159
162
165
167
168
☐
☐
164
158
161
169
163
166

SONY -08945

SERVICE MANUAL

RG-1 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KP-E61MH11	RM-901	Hong Kong	SCC-K62C-A				
KP-E61MH11	RM-901	ME	SCC-K61C-A				
KP-E61MN11	RM-901	GE	SCC-K63C-A				
KP-E61SN11	RM-901	Austrarian	SCC-K64C-A				



MICROFILM

※ Please file according to model size.................. ■

61

PROJECTION TV

SONY®

8945

SPECIFICATIONS

Projection system	3 picture tubes, 3 lenses, horizontal in-line system
Picture tube	7 inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquidcooling system
Projection lenses	High performance, large-diameter hybrid lens F1.0
Screen size	61 inches
Television system	B/G, I, D/K, M
Color system	PAL, PAL 60, SECAM, NTSC$_{4.43}$, NTSC$_{3.58}$
Channel coverage	See "Channel coverage" at the bottom
Antenna	75 ohm external antenna terminal
Audio output (Speaker)	15 W × 2
Number of terminals	
Video	Input: 4, Output: 1
Audio	Input: 4, Output: 1
S1 Video/S Video	Input: 4, Output: 1 Y: 1 Vp-p, 75 ohms, unbalanced, sync negative, C: 0.286 Vp-p, 75 ohms
Power requirement	110 – 240 V AC, 50/60 Hz
Power consumption	175 W
Dimensions (w/h/d)	1336 × 1519 × 647 mm
Mass	Approx. 130 kg
Supplied accessories	Remote commander RM-901 (1) Size R6 (AA) battery (1)

Design and specifications are subject to change without notice.

Channel coverage

M E/ASIA/CATV W EURO

Receivable channel	Channel display
E-2 to E-12	C02 to C12
E-21 to E-69	C21 to C69
S-01 to S-03	S42 to S44
S-1 to S-41	S01 to S41
Indonesia	
1A	C01
2 to 11	C03 to C12
Morocco	
M-4 to M-7	C70 to C73
M-8 to M-10	C08 to C10
New Zealand	
1	C01
2 to 11	C03 to C12
27 to 62	C27 to C62

HK/UK

Receivable channel	Channel display
Hong Kong, United Kingdom	
B-21 to B-68	C21 to C68
Ireland	
A to J	C01 to C09
South Africa	
4 to 13	C04 to C13
21 to 68	C21 to C68

AUSTRALIA

Receivable channel	Channel display
Australia	
AS-0 to AS-12	C00 to C12
AS-5A, AS-9A	C13, C14
AS-28 to AS-69	C28 to C69
New Zealand	
1	C00
2 to 3	C01 to C02
4 to 7	C06 to C09
8	C14
9 to 11	C10 to C12

CHINA/E EURO

Receivable channel	Channel display
China	
C-1 to C-2	C01 to C02
C-3	C13
C-4	C03
C-5	C04
C-6	C14
C-7 to C-12	C06 to C11
C-13 to C-24	C21 to C32
C-25 to C-47	C38 to C60
C-48 to C-57	C61 to C70
Z-1 to Z-39	S01 to S39
Eastern Europe	
R-1 to R-12	C01 to C12
R-21 to R-60	C21 to C60

AMERICA/CATV AMERICA

Receivable channel	Channel display
2 to 79	C02 to C79
A-1	S99
A-2	S98
A-3	S97
A-4	S96
A-5	S95
A-6	S06
A-7	S05
A-8	S01
A to W	S14 to S36
AA to CCC	S37 to S65

JAPAN

Receivable channel	Channel display
J-1 to J-62	C01 to C62
C-13 to C-32	C80 to C99

TABLE OF CONTENTS

Section Title Page

1. GENERAL

Installing the projection TV 4
Changing the menu language 4
Adjusting the convergence (CONVERGENCE) 5
Presetting channels 5
Introducing the menu 6
Watching the TV 6
Using the Picture-in-Picture features 7
Selecting the picture mode 8
Selecting the sound mode 8
Selecting the stereo or bilingual program 9
Setting the speaker switch 9
Viewing Teletext 10
Using headphones 11
Customizing the projection TV 11
Setting the remote command mode 12
Connections 13
Troubleshooting 14
Channel allocation 14

2. DISASSEMBLY

2-1-1. Rear Board and Light Interception Removal 15
2-1-2. Chassis Assy Removal 15
2-1-3. Service Position 15
2-1-4. G Board Removal 16
2-1-5. U Board Removal 16
2-1-6. B Board Removal 16
2-1-7. D Board Removal 16
2-1-8. HA , HB and HC Boards Removal 16
2-1-9. Screen Frame Assy Removal 17
2-1-10.Reflection Mirror Removal 17
2-1-11.High-Voltage Cable Installation and Removal 17
2-1-12.Picture Tube Removal 17
2-2. Service Stay Assy How to Use and Carry Back Service Stay Assy.... 18
2-2-1. Service Stay Assy 18
2-2-2. Picture Tube Bracket Assy Removal and Install a Chassis Assy 18
2-2-3. Install a Picture Tube Bracket Assy 19
2-2-4. Carry Back Service Stay Assy 19

3. SET-UP ADJUSTMENTS

Screen Voltage Adjustment 20
Focus Lens Adjustment 20
SCREEN (G2) Adjustment 20
Focus VR Adjustment 21
Deflection Yoke Tilt Adjustment 21
2-Pole Magnet Adjustment 22
4-Pole Magnet Adjustment 22
Defocus Adjustment 22
Electrical Adjustment By Remote Commander 23
  1. Method of Setting the Service Adjustment Mode 23
  2. Memory Write Confirmation Method 23
  3. Adjust Buttons and Indicator 24
  4. Service Mode List 24
Convergence Adjustment 27
Green Registration Adjustment 27
Convergence Sub Adjustment 29
Grreen Sub Adjustment 30
Screen Center Section Green Vertical Line Adjustment 30
Screen Center Section Green Horizontal Line Adjustment 31
Green Size and Linearity Adjustment 31
Green Horizontal Size Adjustment 32
Green Vertical Linearity Adjustment 32
Green Vertical Size Adjustment 33
Green Horizontal Trapezoidal Distortion Adjustment 33
Green Horizontal Quaternary Adjustment 34
Green Horizontal Asymmetrical Pin Distortion Adjustment 34
Green Horizontal Symmetrical Pin Distortion Adjustment 35
Green Vertical Wave (Tertiary Distortion) Adjustment 35
Green Vertical Quaternary Distortion Adjustment 36
Green Vertical Trapezoidal Distortion Adjustment 36
Green Vertical Asymmetrical Pin Distortion (Secondary Distortion) Adjustment 37
Green Vertical Asymmetrical Pin Distortion Adjustment 37
Green and Red Registration Adjustment (RRH, RRV) 38
Green and Blue Registration Adjustment (RBH, RBV) 38
AGC Adjustment 39
White Balance Adjustment 39
4. SAFETY RELATED ADJUSTMENTS 40

Section Title Page

5. ELECTRICAL ADJUSTMENTS

B Board Adjustment 43
  Sub Color (SCOL) Adjustment 43
  Sub Hue (NHUE,SHUE) Adjustment 43
  Sub Contrast (SCON) Adjustment 43
  Sub White Balance Adjustment 44
  P in P Position Adjustment 44
  Text Position Adjustment 44
  OSD Position Adjustment 44

6. DIAGRAMS

6-1. Block Diagram (1) 45
  Block Diagram (2) 47
  Block Diagram (3) 52
6-2. Frame Schematic Diagram 57
6-3. Circuit Boards Location 60
6-4. Printed Wiring Boards and Schematic Diagrams 60
  • B(1/3) Board 61
  • B(2/3) Board 65
  • B(3/3) Board 70
  • D Board 73
  • U Board 79
  • E Board 81
  • A Board 87
  • G Board 93
  • ZR Board 97
  • ZG Board 98
  • ZB Board 99
  • CR Board 100
  • CG Board 100
  • CB Board 101
  • HA Board 103
  • HB Board 103
  • HC Board 104
6-5. Semiconductors 105

7. EXPLODED VIEWS

7-1. Cover 107
7-2. Chassis 108
7-3. Picture Tube 109
8. ELECTRICAL PARTS LIST 110

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESECOMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFEOPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURTCIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION AUX COMPOSANTS RELATIFS ÀLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNEIMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

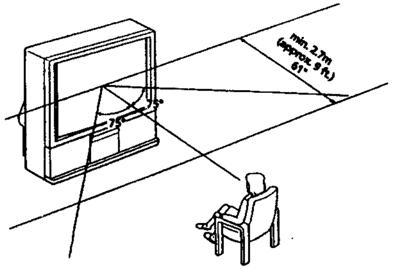
SECTION 1
GENERAL

The operation instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

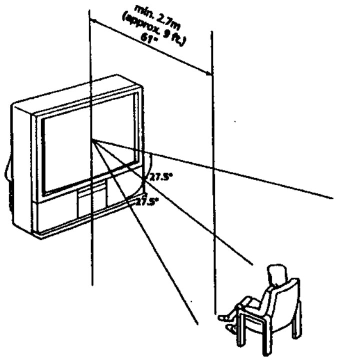
Installing the projection TV

For the best picture quality, install the projection TV within the areas shown below.

Optimum viewing area (Horizontal)

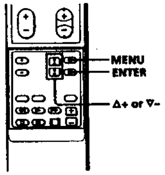

min. 2.7m
(approx. 9 ft.)
61°
75°
75°

Optimum viewing area (Vertical)

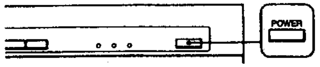

min. 2.7m
(approx. 9 ft.)
61°
27.5°
27.5°

Changing the menu language

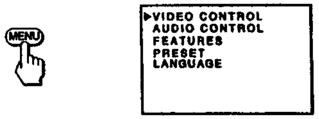
If you prefer Chinese to English, you can change the menu language. You can use the buttons on both the remote commander and the projection TV.


MENU
ENTER
Δ+ or ∇–

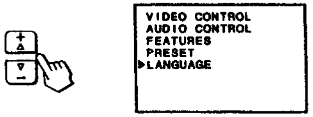
1 **Press POWER on the projection TV.**



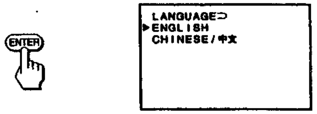
2 **Press MENU.**


MENU
▶VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
LANGUAGE

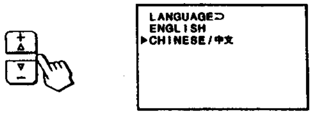
3 **Press Δ + or ∇ – to move the cursor (▶) to LANGUAGE.**


VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
▶LANGUAGE

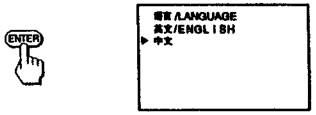
4 **Press ENTER.**


ENTER
LANGUAGE⊃
▶ENGLISH
CHINESE/中文

5 **Press Δ + or ∇ – to select CHINESE.**


LANGUAGE⊃
ENGLISH
▶CHINESE/中文

6 **Press ENTER.**


ENTER
語言/LANGUAGE
英文/ENGLISH
▶ 中文

7 **Press MENU to return to the normal screen.**

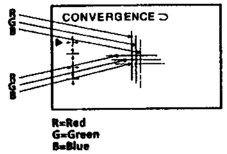
Adjusting the convergence (CONVERGENCE)

Before you use the projection TV, adjust convergence. The projection tube image appears on the screen in three layers (red, green and blue). If they do not converge, the color is poor and the picture blurs. To correct this, adjust convergence.
After 20-30 minutes of turning on the power, adjust convergence.

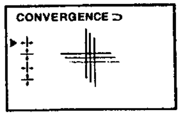
1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to FEATURES and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to CONVERGENCE and press ENTER.
The CONVERGENCE adjustment screen appears.

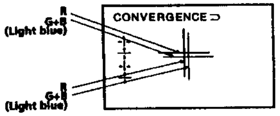

R
G
B
CONVERGENCE ⊃
R
G
B
R=Red
G=Green
B=Blue

4 Press Δ + or ∇ – to move the cursor (▶) to the symbol showing the line you want to adjust, and press ENTER.


CONVERGENCE ⊃

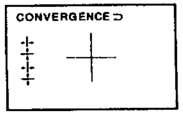
-|- : Red vertical line (left/right adjustment)
+ : Red horizontal line (up/down adjustment)
-|- : Blue vertical line (left/right adjustment)
+ : Blue horizontal line (up/down adjustment)

5 Press Δ + or ∇ – to move the line until it converges with the center green line, and press ENTER.


R
G+B
(Light blue)
CONVERGENCE ⊃
R
G+B
(Light blue)

To move up/right, press Δ +.
To move down/left, press ∇ –.

6 Repeat step 4 and 5 to adjust the other lines until all three lines converge and are seen as a white cross.


CONVERGENCE ⊃

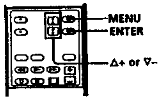
7 Press MENU to return to the normal screen.

Presetting channels

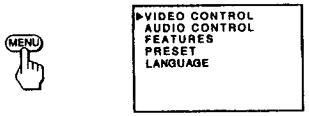
You can preset TV channels easily by storing all the receivable channels automatically. You can also preset channels manually or skip program positions (page 23). You can preset channels using the buttons on the projection TV as well as those on the remote commander.

Presetting channels automatically

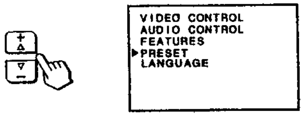
You can preset up to 100 TV channels in numerical sequence from program position 1.


MENU
ENTER
Δ+ or ∇–

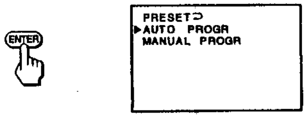
1 Press MENU.


MENU
▶VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
LANGUAGE

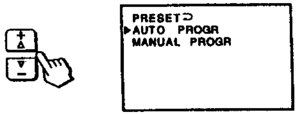
2 Press Δ + or ∇ – to move the cursor (▶) to PRESET.


VIDEO CONTROL
AUDIO CONTROL
FEATURES
▶PRESET
LANGUAGE

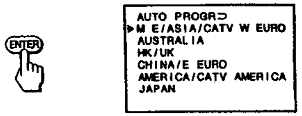
3 Press ENTER.


ENTER
PRESET⊃
▶AUTO PROGR
MANUAL PROGR

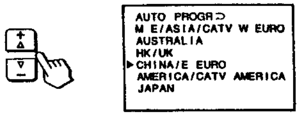
4 Press Δ + or ∇ – to select AUTO PROGR.


PRESET⊃
▶AUTO PROGR
MANUAL PROGR

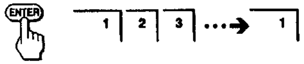
5 Press ENTER.


ENTER
AUTO PROGR⊃
▶M E/ASIA/CATV W EURO
AUSTRALIA
HK/UK
CHINA/E EURO
AMERICA/CATV AMERICA
JAPAN

6 Press Δ + or ∇ – to select your area (channel system).
For the areas allocated in each channel system, see "Channel allocation" on page 27.

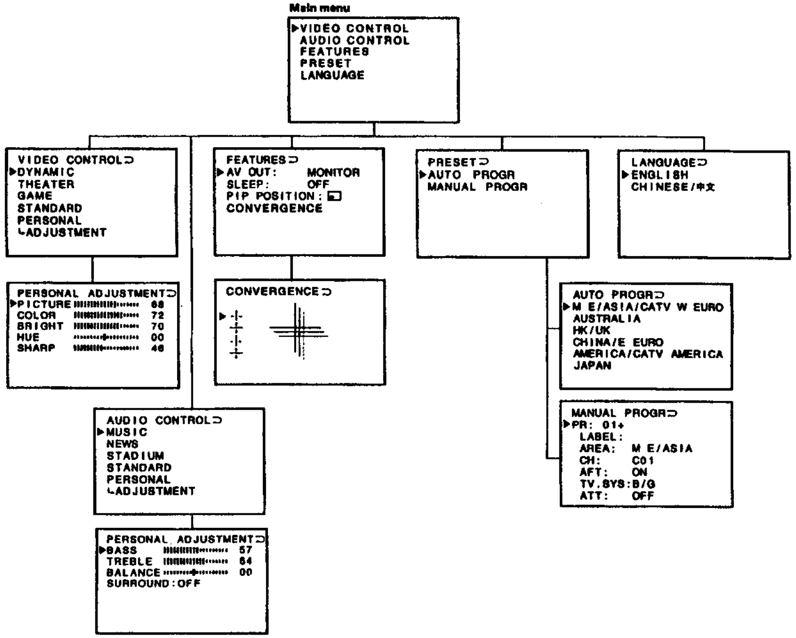

AUTO PROGR⊃
M E/ASIA/CATV W EURO
AUSTRALIA
HK/UK
▶CHINA/E EURO
AMERICA/CATV AMERICA
JAPAN

7 Press ENTER.
Presetting starts from program 1.



Introducing the menu

You can preset channels and set picture quality, sound, and other settings using the on-screen menus. You can use the buttons on both remote commander and the projection TV to operate the menus.


Main menu
▶VIDEO CONTROL
AUDIO CONTROL
FEATURES
PRESET
LANGUAGE
VIDEO CONTROL⊃
▶DYNAMIC
THEATER
GAME
STANDARD
PERSONAL
└ADJUSTMENT
PERSONAL ADJUSTMENT⊃
▶PICTURE 68
COLOR 72
BRIGHT 70
HUE 00
SHARP 46
FEATURES⊃
▶AV OUT: MONITOR
SLEEP: OFF
PIP POSITION:
CONVERGENCE
CONVERGENCE⊃
PRESET⊃
▶AUTO PROGR
MANUAL PROGR
LANGUAGE⊃
▶ENGLISH
CHINESE/中文
AUTO PROGR⊃
▶M E/ASIA/CATV W EURO
AUSTRALIA
HK/UK
CHINA/E EURO
AMERICA/CATV AMERICA
JAPAN
MANUAL PROGR⊃
▶PR: 01+
LABEL:
AREA: M E/ASIA
CH: C01
AFT: ON
TV.SYS:B/G
ATT: OFF
AUDIO CONTROL⊃
▶MUSIC
NEWS
STADIUM
STANDARD
PERSONAL
└ADJUSTMENT
PERSONAL ADJUSTMENT⊃
▶BASS 57
TREBLE 64
BALANCE 00
SURROUND:OFF

Getting back to the previous menu

Press Δ + or ∇ – to move the cursor (▶) to the first line (⊃) of each menu (except for the main menu), and press ENTER.

Cancelling the menu screen

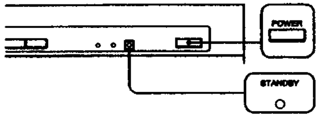
Press MENU.

Note

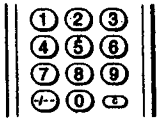
- If more than 60 seconds elapse after you press a button, the menu screen disappears automatically.

Watching the TV

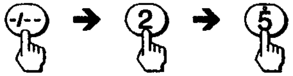
1 Select the TV program you want to watch.
Press the number buttons or PROGR +/–. The projection TV turns on automatically and the selected program appears.
When the STANDBY indicator on the front of the projection TV is not lit, press POWER on the projection TV, and select the program position.


POWER
STANDBY

To select a program position directly
Press the number buttons.


1
2
3
4
5
6
7
8
9
-/--
0
C

To select a two-digit program position, press "-/–" before the number buttons.
For example, to select program position 25, press "-/–" and then "2" and "5."



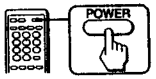
To scan through program positions
Press PROGR +/– until the program position you want appears.

To select a channel directly
Press C (once for VHF/UHF channels, twice for cable TV channels), then press the number buttons (two-digit number for VHF/UHF channels, three-digit number for cable TV channels). For example, to select the VHF/UHF channel 4, press C, 0 then 4.

2 Press VOL +/– to adjust the volume.

Switching off the projection TV

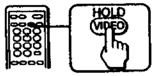
To switch off the projection TV temporarily, press POWER on the remote commander.
The STANDBY indicator lights.

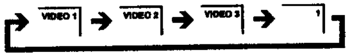


To switch off the projection TV completely, press POWER on the TV.

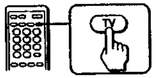
Watching the video input

Press VIDEO/HOLD.



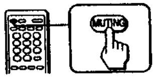

VIDEO 1
VIDEO 2
VIDEO 3
1

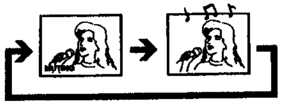
To watch projection TV, press TV, the number buttons or PROGR +/–.



Muting the sound

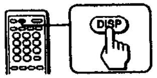
Press MUTING.

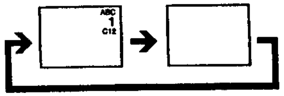




Displaying on-screen information

Press DISP.





Note

- When you press DISP, the on-screen display shows the picture and sound settings as well, all of which disappear after three seconds.

Setting the Sleep Timer

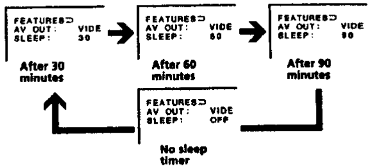
You can set the projection TV to turn off automatically after the period of time you set.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to FEATURES, and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to SLEEP, and press ENTER.

4 Press Δ + or ∇ – until the time (in minutes) you want appears.

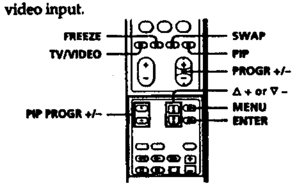

FEATURES⊃
AV OUT: VIDE
SLEEP: 30
After 30 minutes
FEATURES⊃
AV OUT: VIDE
SLEEP: 60
After 60 minutes
FEATURES⊃
AV OUT: VIDE
SLEEP: 90
After 90 minutes
FEATURES⊃
AV OUT: VIDE
SLEEP: OFF
No sleep timer

5 Press ENTER.

To cancel the Sleep Timer, select OFF, or turn the projection TV off.

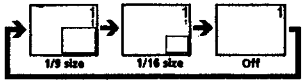
Using the Picture-in-Picture features

You can display a Picture-in-Picture (PIP) screen (small picture) within the main picture of a TV program or a video input.


FREEZE
TV/VIDEO
PIP PROGR +/–
SWAP
PIP
PROGR +/–
Δ + or ∇ –
MENU
ENTER

Displaying PIP

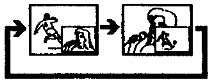
Press PIP.


1
1/9 size
1/16 size
Off

Selecting a TV program or video input in the PIP screen
To select a TV program, press PIP PROGR +/– (yellow buttons).
To select a video input, press TV/VIDEO

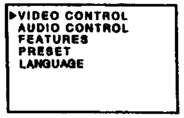
Swapping pictures between the main and PIP screens

Press SWAP.



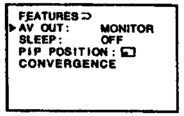
Changing the position of the PIP screen

1 Press MENU.



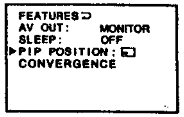
```
▶VIDEO CONTROL
 AUDIO CONTROL
 FEATURES
 PRESET
 LANGUAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to FEATURES, and press ENTER.



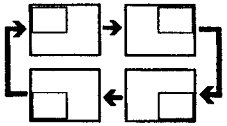
```
 FEATURES⊃
▶AV OUT:        MONITOR
 SLEEP:         OFF
 PIP POSITION : ◳
 CONVERGENCE
```

3 Press Δ + or ∇ – to move the cursor (▶) to PIP POSITION, and press ENTER.



```
 FEATURES⊃
 AV OUT:        MONITOR
 SLEEP:         OFF
▶PIP POSITION : ◳
 CONVERGENCE
```

4 Press Δ + or ∇ – to select the position you want.
Pressing Δ + changes the position as shown below.
Pressing ∇ – changes the position in reverse order.



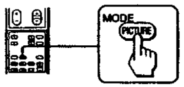
Freezing the PIP screen

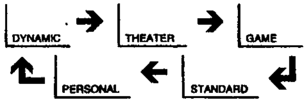
Press FREEZE.
To restore the normal picture, press FREEZE again.

Selecting the picture mode

You can select the picture mode using the menu as well as the PICTURE MODE button on the remote commander. Select VIDEO CONTROL from the main menu, then select the desired mode.

Press PICTURE MODE until the mode you want appears on the screen.





Select	To
DYNAMIC	Display more contrast picture
THEATER	Display darker and finely detailed picture suitable for movies
GAME	Display softer picture suitable for the video games
STANDARD	Display normal contrast picture
PERSONAL	Display the picture that is adjusted using ADJUSTMENT in the VIDEO CONTROL menu

Viewing a video game screen

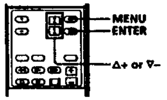
Press PICTURE MODE until the GAME mode appears on the screen.
The screen changes to the optimum mode for video games with soft picture.

If the fixed (non-moving) pattern is on the screen for long periods of time
Keep the picture functions at low settings (see "Adjusting the picture setting" on page 14). If not, the image may be permanently imprinted on the screen.

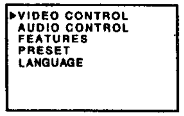
Note
- To prevent imprints on the screen, the picture shifts horizontally and vertically about 5 mm every 2 hours. This is not a malfunction of the TV.

Adjusting the picture setting (ADJUSTMENT)

You can adjust the picture quality to suit your taste with the ADJUSTMENT option. The adjusted settings are stored in the PERSONAL option.

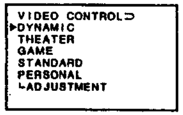


1 Press MENU.



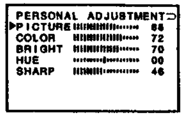
```
▶VIDEO CONTROL
 AUDIO CONTROL
 FEATURES
 PRESET
 LANGUAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to VIDEO CONTROL, and press ENTER.



```
 VIDEO CONTROL⊃
▶DYNAMIC
 THEATER
 GAME
 STANDARD
 PERSONAL
 └ADJUSTMENT
```

3 Press Δ + or ∇ – to move the cursor (▶) to ADJUSTMENT, and press ENTER.



```
 PERSONAL  ADJUSTMENT⊃
▶PICTURE              86
 COLOR                72
 BRIGHT               70
 HUE                  00
 SHARP                46
```

4 Press Δ + or ∇ – to move the cursor (▶) to the item you want to adjust, and press ENTER

5 Press Δ + or ∇ – to adjust the item, and press ENTER.

Item	Press Δ + to	Press ∇ – to
PICTURE	Increase picture contrast	Decrease picture contrast
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
HUE	Make skin tones become greenish	Make skin tones become reddish
SHARP	Sharpen the picture	Soften the picture

6 To adjust other items, repeat steps 4 and 5.

7 Press MENU to return to the normal screen.

Note
- You can adjust HUE for NTSC color system only.

If the color of the picture is abnormal when receiving programs through the ╥ (antenna) terminal

Press COLOR SYSTEM on the projection TV or change the TV system setting from the menu as described below until the color becomes normal.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to PRESET, and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to MANUAL PROGR, and press ENTER.

4 Press Δ + or ∇ – to move the cursor (▶) to TV SYS, and press ENTER.

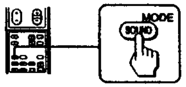
5 Press Δ + or ∇ – to change the TV system until the color becomes normal.

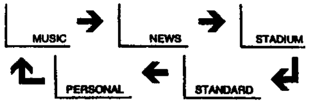
Note
- Normally set COLOR SYSTEM to AUTO.

Selecting the sound mode

You can select the sound mode using the menu as well as the SOUND MODE button on the remote commander. Select AUDIO CONTROL from the main menu, then select the desired mode.

Press SOUND MODE until the mode you want appears on the screen.

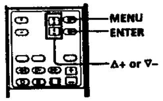




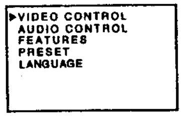
Select	To
MUSIC	Listen to music programs. It gives sound with a live concert effect.
NEWS	Listen to news program. A person's voice can be heard clearly.
STADIUM	Listen to sports program. It gives sound with a sports stadium effect.
STANDARD	Listen to sound other than music, news or sports program.
PERSONAL	Listen to the sound that is adjusted using ADJUSTMENT in the AUDIO CONTROL menu.

Adjusting the sound setting (ADJUSTMENT)

You can adjust the sound quality to suit your taste with the ADJUSTMENT option. The adjusted settings are stored in the PERSONAL option.

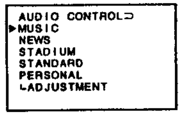


1 Press MENU.



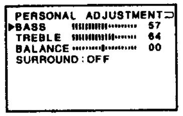
```
▶VIDEO CONTROL
 AUDIO CONTROL
 FEATURES
 PRESET
 LANGUAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to AUDIO CONTROL, and press ENTER.



```
 AUDIO CONTROL⊃
▶MUSIC
 NEWS
 STADIUM
 STANDARD
 PERSONAL
 └ADJUSTMENT
```

3 Press Δ + or ∇ – to move the cursor (▶) to ADJUSTMENT, and press ENTER.



```
PERSONAL  ADJUSTMENT⊃
▶BASS     ||||||||||·······  57
 TREBLE   ||||||||||||·····  64
 BALANCE  ·······|·······    00
 SURROUND : OFF
```

4 Press Δ + or ∇ – to move the cursor (▶) to the item you want to adjust, and press ENTER.

5 Press Δ + or ∇ – to adjust the item, and press ENTER.

Item	Press Δ + to	Press ∇ – to
BASS	Increase the bass sound	Decrease the bass sound
TREBLE	Increase the treble sound	Decrease the treble sound
BALANCE	Increase the volume of right speaker	Increase the volume of left speaker

6 To adjust other items, repeat steps 4 and 5.

7 Press MENU to return to the normal screen.

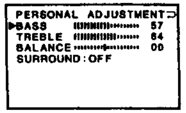
Listening to surround sound

You can enjoy a surround sound effect that is like being in a movie theater or a concert hall when receiving stereo signals.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to AUDIO CONTROL, and press ENTER.

3 Press Δ + or ∇ – to move the cursor (▶) to ADJUSTMENT, and press ENTER.



```
PERSONAL  ADJUSTMENT⊃
▶BASS     ||||||||||·······  57
 TREBLE   ||||||||||||·····  64
 BALANCE  ·······|·······    00
 SURROUND : OFF
```

4 Press Δ + or ∇ – to move the cursor (▶) to SURROUND, and press ENTER.

5 Press Δ + or ∇ – to select ON, and press ENTER.

If the sound is distorted or noisy when receiving programs through the ⫪ (antenna) terminal

Press COLOR SYSTEM on the projection TV or change the TV system setting as follows until the sound becomes clear.

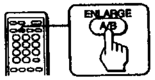
1. **Press MENU.**
2. **Press Δ + or ∇ – to move the cursor (▶) to PRESET, and press ENTER.**
3. **Press Δ + or ∇ – to move the cursor (▶) to MANUAL PROGR, and press ENTER.**
4. **Press Δ + or ∇ – to move the cursor (▶) to TV SYS, and press ENTER.**
5. **Press Δ + or ∇ – to change the TV system until the sound becomes clear.**

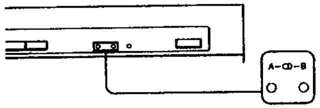
Note
- Normally set COLOR SYSTEM to AUTO.

Selecting a stereo or bilingual program

You can enjoy stereo sound or bilingual program of NICAM and A2 (German) stereo systems. The initial setting is stereo sound.

Press A/B/ENLARGE repeatedly until you receive the sound you want.
The sound changes and the corresponding indicator lights up as follows:





When receiving a NICAM program:

Broadcasting	On-screen Display	Selected sound (Indicator lit)
NICAM stereo	NICAM	→ Stereo → Regular (A and B)
NICAM bilingual	NICAM	→ A → B → Regular (A) (B)
NICAM monaural	NICAM	→ NICAM monaural (A) Regular←

When receiving an A2 (German) stereo program:

Broadcasting	On-screen display	Selected sound (Indicator lit)
A2 (German) stereo	STEREO	→ Stereo → Monaural (A and B)
A2 (German) bilingual	—	→ A → B (A) (B)

Receiving area for NICAM and A2 (German) stereo programs

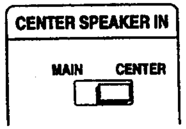
System	Receiving area
NICAM	Hong Kong, Singapore, New Zealand, etc.
A2 (German) stereo	Australia, Malaysia, Thailand, etc.

Notes
- If the signal is very weak, the sound becomes monaural.
- If the stereo sound is noisy, select "regular" or "mono." The sound becomes monaural, however, the noise will be reduced.

You cannot receive stereo broadcasts in mainland China.

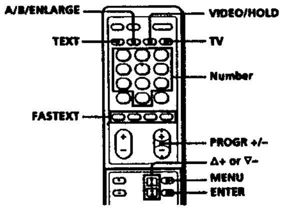
Setting the speaker switch

If you connect a Dolby Pro Logic-compatible amplifier to the CENTER SPEAKER IN terminals, you can use the projection TV speakers as center speakers.
To use the projection TV speakers as center speakers, set the CENTER SPEAKER IN switch located at the rear of the projection TV to CENTER.
To listen to the sound from the projection TV, set to MAIN. See page 25 for connection.



Viewing Teletext

TV stations broadcast an information service called Teletext via a local TV channel.
Teletext service allows you to receive various information such as weather forecasts or news at any time. Some of the features, however, may not be available depending on the Teletext service.



Note on Teletext

- Teletext service is not available in Chinese.

Displaying Teletext

1 Select a TV channel which carries the Teletext broadcast you want to watch.

2 Press TEXT to display the Teletext.
A Teletext page (normally the index page) is displayed on the left. If there is no Teletext broadcast, P100 appears in the top left corner of the screen.

To switch Teletext off, press TV.

Superimposing a Teletext page on the TV picture

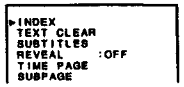
Press TEXT.
Each time you press TEXT, the screen changes as follows:

→ Teletext → Teletext and TV → TV

Checking the contents of a Teletext service (INDEX)

When Teletext is switched on, you can display the Teletext menu.

1 Press MENU.



```
▶INDEX
 TEXT CLEAR
 SUBTITLES
 REVEAL     :OFF
 TIME PAGE
 SUBPAGE
```

2 Press Δ + or ∇ – to move the cursor (▶) to INDEX, and press ENTER.

Selecting a Teletext page

Press the number buttons to enter the three-digit page number of the Teletext number you want.
If you make a mistake, re-enter the correct page number.

To access the next or previous page, press PROGR +/–.

Note

- When you request another Teletext page while viewing one Teletext page, the page scrolling may pause on a different page depending on the Teletext service, but the search will continue till the requested page is displayed.

Preventing a Teletext page from being updated (HOLD)

A Teletext page may consist of several subpages. You can stop the page scrolling in order to read the text at your own pace.

Press VIDEO/HOLD.
HOLD appears in the top left corner of the screen.

To resume normal Teletext operation, press TEXT.

Using FASTEXT

This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT page is broadcast, a color-coded menu appears at the bottom of the screen. The colors of the menu correspond to the red (TV/VIDEO), green (FREEZE), yellow (SWAP) and blue (PIP) buttons on the remote commander. These colored buttons function as the FASTEXT buttons in Teletext mode.

Press the colored button which corresponds to the color-coded menu.
The page is displayed after a few seconds.

Enlarging the Teletext display (ENLARGE)

Each time you press A/B/ENLARGE, the Teletext display changes as follows:

→Enlarge upper half→Enlarge lower half→Normal size

Revealing concealed information (REVEAL)

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option discloses the information.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to REVEAL, and press ENTER.

3 Press Δ + or ∇ – to select ON, and press ENTER.

To conceal the information again, select OFF.

Watching a TV program while waiting for a requested Teletext page (TEXT CLEAR)

1 Select the Teletext page to which you want to refer.

2 Press MENU.

3 Press Δ + or ∇ – to move the cursor (▶) to TEXT CLEAR, and press ENTER.

4 When the page number is displayed on the screen, press TEXT to switch the Teletext on.

To restore the normal Teletext reception, press TEXT.

Displaying subtitles (SUBTITLES)

Your Teletext service informs you if a TV program is subtitled.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to SUBTITLES, and press ENTER.

Note

- If the subtitles are not broadcast on page 888, select the subtitle page using the number buttons.

Displaying a Teletext page at the requested time (TIME PAGE)

You can display a time-coded page (e.g. an alarm page) at the time you preset.

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to TIME PAGE, and press ENTER.

3 Press the number buttons to enter four digits for the desired time. For example, to enter 7:30, press 0,7,3 and 0.

At the requested time, the page appears on the screen.

To restore the normal Teletext reception, press TEXT.

Displaying a particular page among several subpages (SUBPAGE)

1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to SUBPAGE, and press ENTER.

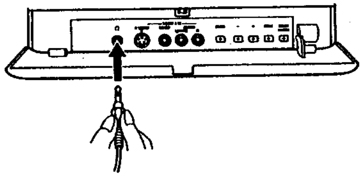
3 Press the number buttons or PROGR +/– to enter four digits for the desired subpage. For example, to display the second page of a sequence, press 0, 0, 0 and 2.

Using headphones

You can use headphones to enjoy the sound of the TV. This feature does not allow you to enjoy the sound of PIP screens.

Listening to the sound of the projection TV with headphones

Insert the headphones into the ∩ (headphones) jack located on the front panel of the projection TV.
The sound from the speaker is shut off.
To adjust the headphones volume, press VOL +/–.



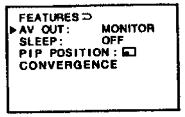
Customizing the projection TV

Using the AV OUT (advance rec-out) terminal

You can select the output signal from the VIDEO jacks at the rear of the projection TV.
The S Video output can be used only when MONITOR is selected.

1 Press MENU.

2 Press Δ + or ∇ – to select FEATURES, and press ENTER.



```
 FEATURES⊃
▶AV OUT:       MONITOR
 SLEEP:        OFF
 PIP POSITION: ◲
 CONVERGENCE
```

3 Press Δ + or ∇ – to select AV OUT, and press ENTER.

4 Press Δ + or ∇ – to select the output signal, and press ENTER.

Select	To
TV	Output the TV signal.
MONITOR	Output the signal of the picture you are watching as a main picture.

Note

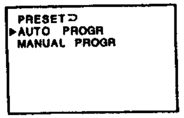
- Do not change the channel while recording with a VCR through the MONITOR/TV OUT jacks. If you change the channel, it also changes the channel you are recording.

Presetting channels manually

To change the program position for a channel or to receive a channel with a weak signal, preset the channel manually.
For example, preset a channel in program position 8.

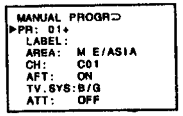
1 Press MENU.

2 Press Δ + or ∇ – to move the cursor (▶) to PRESET, and press ENTER.



```
 PRESET⊃
▶AUTO PROGR
 MANUAL PROGR
```

3 Press Δ + or ∇ – to select MANUAL PROGR, and press ENTER.



```
 MANUAL PROGR⊃
▶PR: 01+
  LABEL:
  AREA:    M E/ASIA
  CH:      C01
  AFT:     ON
  TV.SYS:B/G
  ATT:     OFF
```

4 Select the program position to which you want to preset a channel.
(1) Press Δ + or ∇ – to select PR, and press ENTER.
(2) Press Δ + or ∇ – to select 8.
You can also select the program position with PROGR +/– or the number buttons (e.g. for program 24, press -/--, 2 and 4).
(3) Press ENTER.

5 Select your area (channel system).
For the areas allocated in each channel system, see "Channel allocation" on page 27.
(1) Press Δ + or ∇ – to select AREA, and press ENTER.
(2) Press Δ + or ∇ – to select your area, and press ENTER.

6 Select a channel which you want to preset.
(1) Press Δ + or ∇ – to select CH, and press ENTER.
(2) Press Δ + or ∇ – until the channel you want appears on the screen.
You can also select the channel directly using the number buttons. Press C (once for VHF/UHF channels, twice for cable TV channels), then the number buttons (e.g., for channel 5, press 0 and 5).
(3) Press ENTER.

To preset other channels
Repeat steps 4 to 6.

Disabling program positions

By disabling unused or unwanted program positions, you can skip those positions when you press PROGR +/–.
For example, disable program position 8.

1 Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on this page.)

2 Press Δ + or ∇ – to move the cursor (▶) to PR, and press ENTER.

3 Press PROGR + or – until 8 appears.

4 Press Δ + or ∇ – to select "–", and press ENTER.
To skip other program positions, repeat steps 3 and 4.

To restore the skipped program positions
In step 4 above, press Δ + or ∇ – to select "+," and press ENTER.

Customizing channel names

You can caption each channel number using up to five letters to be displayed on the screen.

1 Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on page 21.)

2 Press △ + or ▽ – to move the cursor (▶) to PR, and press ENTER.

3 Press △ + or ▽ – to select the program position you want to caption and press ENTER.

4 Press △ + or ▽ – to move the cursor (▶) to LABEL, and press ENTER.

5 Press △ + or ▽ – to select a letter or number, and press ENTER for each caption space (up to five.)
Each time you press △ + or ▽ –, the letter (number) changes as shown below.
A→B→...→Z→0→1→...→9→ – →:→/→. →
+→__ (space)
For the caption space you want to leave blank, select "–."

6 Repeat steps 2 to 5 to caption other channels.

To erase a caption
In step 5 above, select "_ (space)."

Manual fine-tuning

Normally, the automatic fine-tuning (AFT) is operating. However, if the picture of a channel is distorted, you can use the manual fine-tuning function for the channel to obtain better picture reception.

1 Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on page 21.)

2 Press △ + or ▽ – to move the cursor (▶) to PR, and press ENTER.

3 Press △ + or ▽ – to select the program position corresponding to the channel which you want to manually fine-tune, and press ENTER.

4 Press △ + or ▽ – to move the cursor (▶) to AFT, and press ENTER.

5 Press △ + or ▽ – to select OFF, and press ENTER.

6 Press △ + or ▽ – to fine-tune the channel so that you get the best TV reception.
As you press these buttons, the frequency changes from –128 to +128.

7 After fine-tuning, press ENTER.
The fine-tuned level is stored.

Improving TV signal

If the reception signal is very strong, you can attenuate it to obtain better picture reception.

1 Display the MANUAL PROGR menu. (Follow steps 1 to 3 in "Presetting channels manually" on page 21.)

2 Press △ + or ▽ – to move the cursor (▶) to PR, and press ENTER.

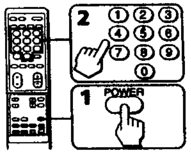
3 Press △ + or ▽ – to select the program position corresponding to the channel whose signal is very strong, and press ENTER.

4 Press △ + or ▽ – to move the cursor (▶) to ATT, and press ENTER.

5 Press △ + or ▽ – to select ON, and press ENTER.

Setting the remote command mode

You can use the supplied remote commander to operate the TV and Sony video equipment, such as a VCR or multi-disc player. To operate Sony video equipment, first set the remote command mode for the video equipment you want to use.

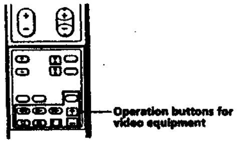


1 Press and hold the POWER button in the VCR control area.

2 Press the number buttons that correspond to the remote command mode.

Mode number buttons	Remote command mode
0 and then 1	VTR1 (e.g., Beta format VCR)
0 and then 2	VTR2 (e.g., 8 mm format VCR)
0 and then 3	VTR3 (e.g., VHS format VCR)
0 and then 4	MDP (multi-disc player)

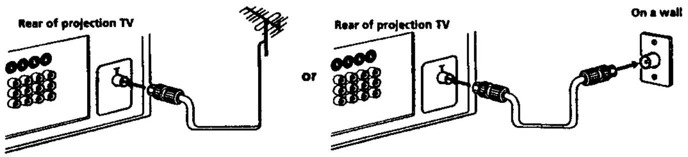
After setting the remote command mode, you can use the following buttons to operate the video equipment.



Connections

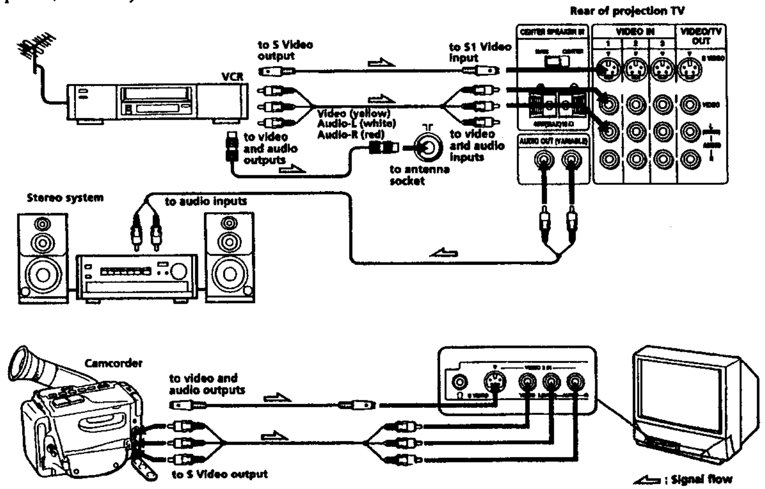
Connecting a VHF antenna or a combination VHF/UHF antenna—75-ohm coaxial cable (round)

Attach an optional IEC antenna connector to the 75-ohm coaxial cable.
Plug the connector into the ⫪ (antenna) terminal at the rear of the projection TV.


Rear of projection TV
or
Rear of projection TV
On a wall

Connecting optional equipment

You can connect optional audio/video equipment to this projection TV such as a VCR, multi-disc player, camcorder, headphones, or stereo system.


Rear of projection TV
CENTER SPEAKER IN
VIDEO IN
1
2
3
VIDEO/TV OUT
S VIDEO
VIDEO
AUDIO
AUDIO OUT (VARIABLE)
to S Video output
to S1 Video input
VCR
Video (yellow)
Audio-L (white)
Audio-R (red)
to video and audio outputs
to video and audio inputs
to antenna socket
Stereo system
to audio inputs
Camcorder
to video and audio outputs
to S Video output
⇐ : Signal flow

When connecting a monaural VCR
Connect the yellow plug to VIDEO and the white plug to AUDIO-L (mono).

If both S Video and video signals are input
The S Video input signal is selected. To view a video signal, disconnect the S Video connection.

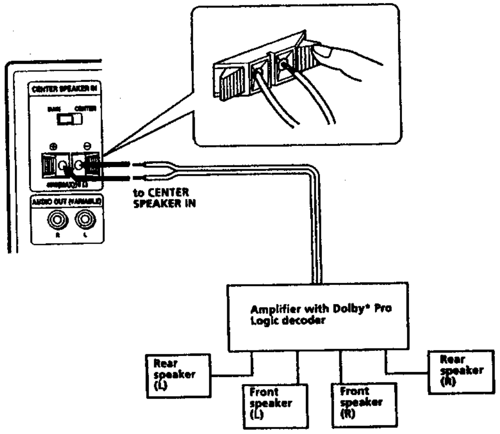
Note on the video input
When no signal is input, the screen becomes black and on-screen-display becomes dark.

When connecting a VCR to the VIDEO 3 IN jacks
This projection TV is equipped with two sets of the VIDEO 3 IN jacks on the front and rear panels. Front and rear jacks are not available to be used at the same time. When using equipment connected, turn off other equipment not in use.

Connecting an amplifier with Dolby Pro Logic decoder

If you use an amplifier with Dolby Pro Logic decoder instead of the projection TV's audio system, you can still use the projection TV's center speaker.

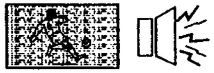
*Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY, the double-D symbol DD and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.


CENTER SPEAKER IN
AUDIO OUT (VARIABLE)
to CENTER SPEAKER IN
Amplifier with Dolby* Pro Logic decoder
Rear speaker (L)
Front speaker (L)
Front speaker (R)
Rear speaker (R)

Troubleshooting

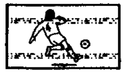
If you have any problems, read this manual again and check the countermeasure for each of the symptoms listed below.
If the problem persists, contact your nearest authorized service center or dealer.

Snowy picture
Noisy sound



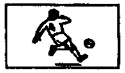
➡Check the antenna.
➡Check the antenna connection on the projection TV and on the wall.

Dotted lines or stripes



➡This may be caused by local interference (e.g. cars, neon signs, hair dryers, etc.) Adjust the antenna for minimum interference.

Double images or "ghosts"

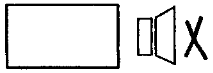


➡This may be caused by reflections from nearby mountains or buildings. A highly directional antenna may improve the picture.

Good picture
Noisy sound

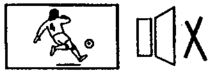
➡Check the TV SYSTEM setting.

No picture
No sound



➡Press POWER.
➡Press POWER to turn the projection TV off for 5 to 6 seconds, then turn it on again by pressing POWER.
➡Check the antenna connection.
➡Check the VCR connections.

Good picture
No sound



➡Press VOL +.
➡Press MUTING.

No color

➡Adjust COLOR in the VIDEO CONTROL menu's ADJUSTMENT option.
➡Check the COLOR SYSTEM setting.

TV cabinet creaks

➡Even if the picture or the sound is normal, changes in the room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.

Channel allocation

Areas allocated in each channel system

M E/ASIA/CATV W EURO
Afghanistan, Albania, Algeria, Austria, Bahrain, Bangladesh, Belgium, Brunei, Canary Islands, Cyprus, Denmark, Egypt, Finland, Germany, Ghana, Gibraltar, Greece, Iceland, India, Indonesia, Iran, Iraq, Italy, Jordan, Kenya, Republic of Korea, Kuwait, Lebanon, Liberia, Libya, Luxemburg, Malaysia, Malta, Mauritania, Mauritius, Maldives Rep., Morocco, Mozambique, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Portugal, Qatar, Sarawak, Saudi Arabia, Seychelles, Sierra Leone, Singapore, Spain, Srilanka, Sudan, Swaziland, Sweden, Switzerland, Syrian Arab Rep., Tanzania, Thailand, Tunisia, Turkey, Uganda, United Arab Emirates, Western Sahara, Yemen Arab Republic, People's Dem. Rep. of Yemen, Yugoslavia, Zambia, Zimbabwe

AUSTRALIA
Australia, New Zealand

HK/UK
Hong kong, Ireland, Lesotho, South Africa, United Kingdom

CHINA/E EURO
Benin, Bulgaria, China, Congo, Czechoslovakia, Djibouti Republic, Gabon, Guadeloupe, Guiana, Guinea (P.P.R.), Hungary, Ivory Coast, Dem. People's Rep. of Korea, Madagascar, Mongolia, New Caledonia, Niger, Poland, Reunion, Rumania, Senegal, Tahiti, Togo, Former U.S.S.R., Vietnam, Zaire

AMERICA/CATV AMERICA
Bahama Islands, Barbados, Belize, Bermuda, Bolivia, Burma (UHF), Canada, Chile, Colombia, Costa Rica, Cuba, Dominica Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Hawaii, Honduras, Jamaica, Laos, Mexico, Panama, Peru, Philippines, Puerto Rico, Surinam, Taiwan, Trinidad & Tobago, U.S.A., U.S.A. (CATV), Venezuela

JAPAN
Burma (Myanmar) (VHF), Japan (VHF, UHF)

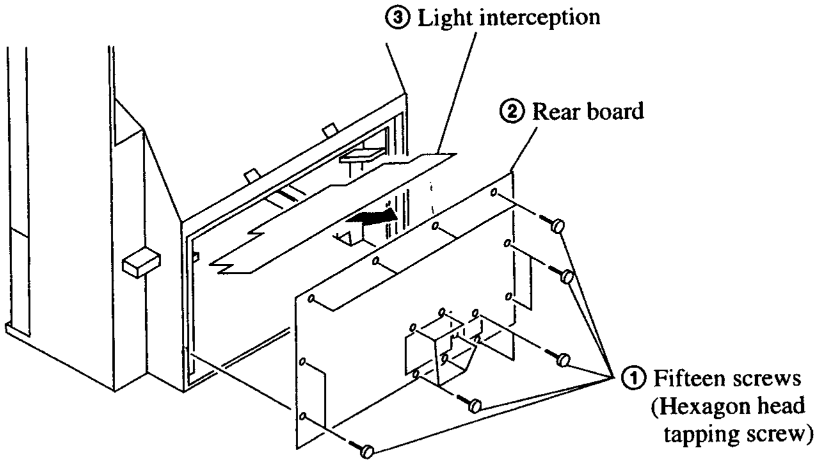
TV and color systems of each channel system

The TV system and color system are automatically set according to the channel system.

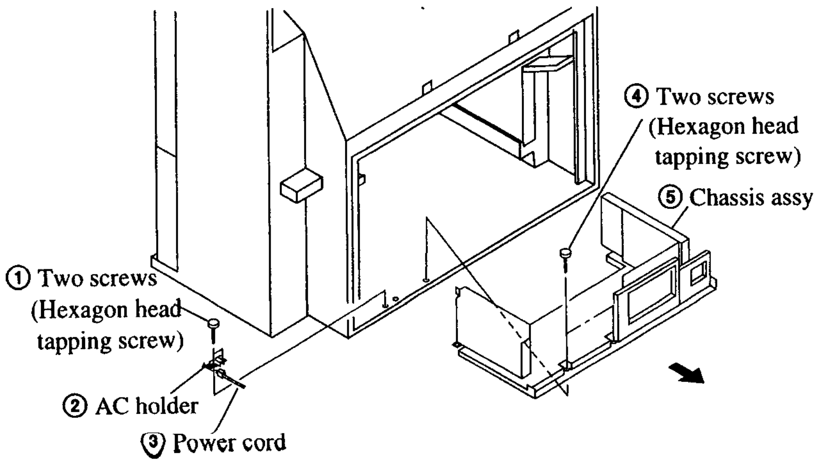
Channel system	TV system	Color system
M E/ASIA/ CATV W EURO	B/G, H: West European TV standard	AUTO
AUSTRALIA	B/G, H: Australian TV standard	AUTO
HK/UK	I: British TV standard	AUTO
CHINA/E EURO	D/K: East European TV standard	AUTO
AMERICA/CATV AMERICA	M: American TV standard	AUTO
JAPAN	M: Japan TV standard	AUTO

SECTION 2
DISASSEMBLY

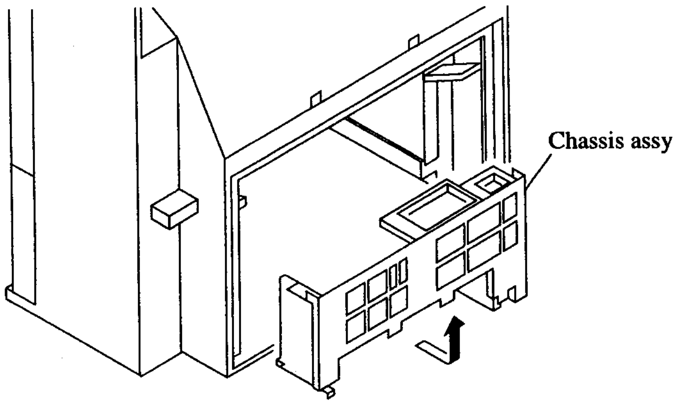
2-1-1. REAR BOARD AND LIGHT INTERCEPTION REMOVAL


③ Light interception
② Rear board
① Fifteen screws
(Hexagon head
tapping screw)

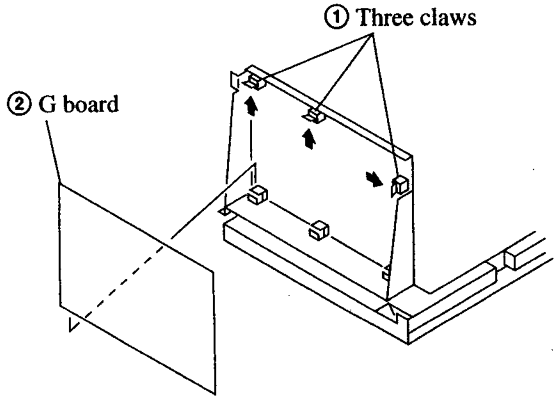
2-1-2. CHASSIS ASSY REMOVAL


④ Two screws
(Hexagon head
tapping screw)
⑤ Chassis assy
① Two screws
(Hexagon head
tapping screw)
② AC holder
③ Power cord

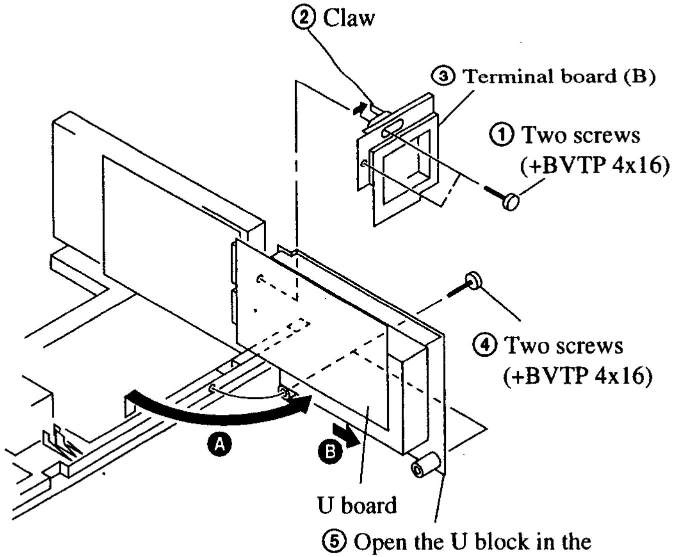
2-1-3. SERVICE POSITION


Chassis assy

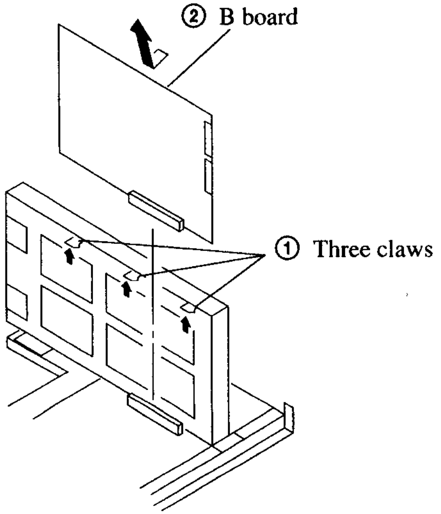
2-1-4. G BOARD REMOVAL


① Three claws
② G board

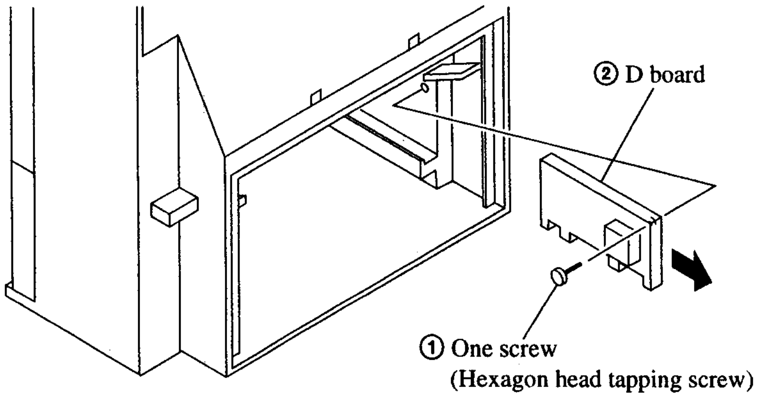
2-1-5. U BOARD REMOVAL


② Claw
③ Terminal board (B)
① Two screws
(+BVTP 4x16)
④ Two screws
(+BVTP 4x16)
A
B
U board
⑤ Open the U block in the direction of the arrow A, and remove of the arrow B.

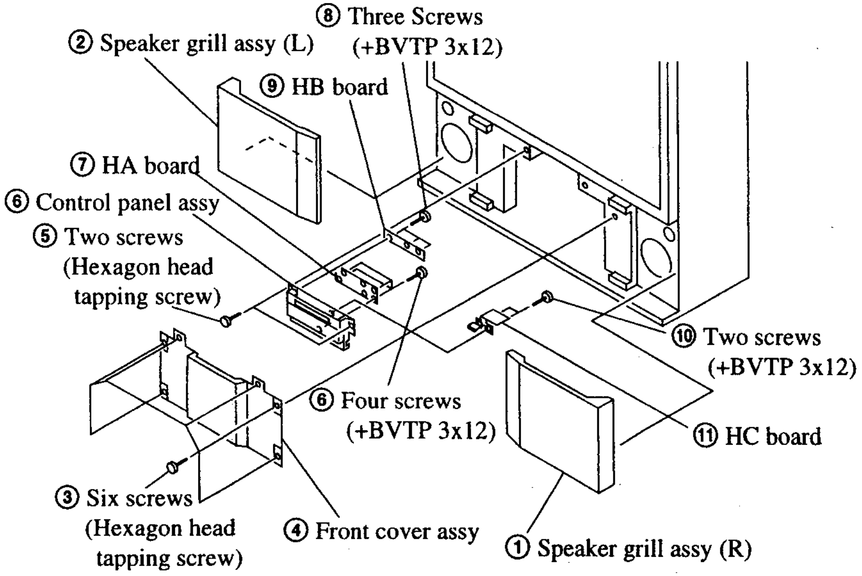
2-1-6. B BOARD REMOVAL


② B board
① Three claws

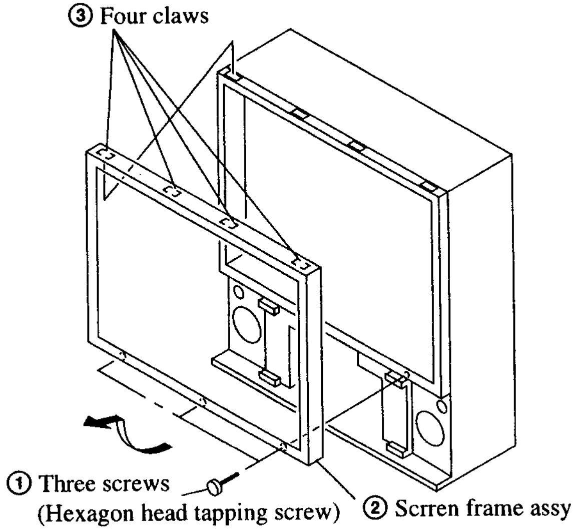
2-1-7. D BOARD REMOVAL


② D board
① One screw
(Hexagon head tapping screw)

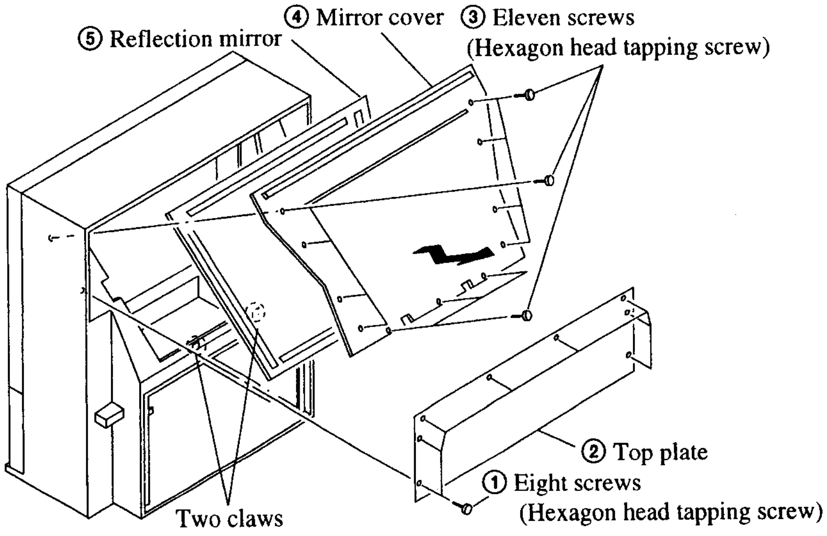
2-1-8. HA, HB AND HC BOARDS REMOVAL


⑧ Three Screws
(+BVTP 3x12)
② Speaker grill assy (L)
⑨ HB board
⑦ HA board
⑥ Control panel assy
⑤ Two screws
(Hexagon head
tapping screw)
⑩ Two screws
(+BVTP 3x12)
⑥ Four screws
(+BVTP 3x12)
⑪ HC board
③ Six screws
(Hexagon head
tapping screw)
④ Front cover assy
① Speaker grill assy (R)

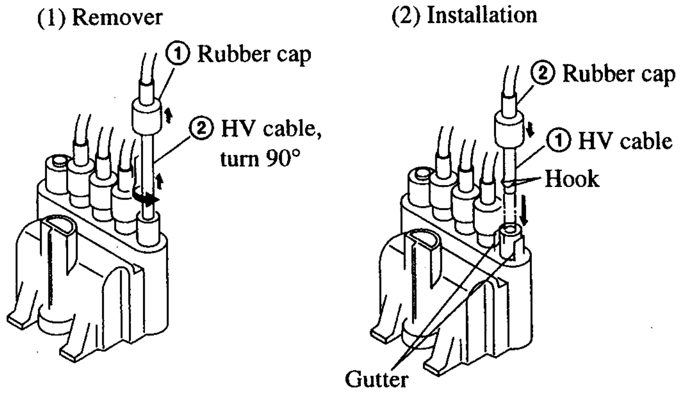
2-1-9. SCREEN FRAME ASSY REMOVAL


③ Four claws
① Three screws
(Hexagon head tapping screw)
② Scrren frame assy

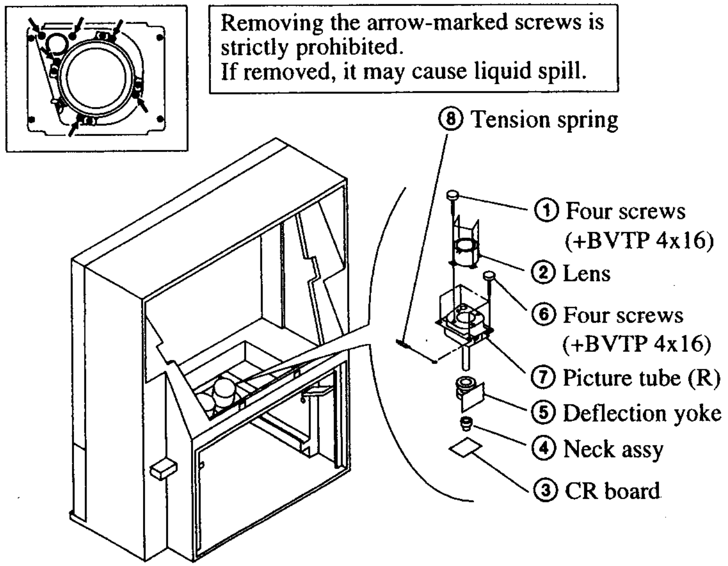
2-1-10. REFLECTION MIRROR REMOVAL


④ Mirror cover
③ Eleven screws
(Hexagon head tapping screw)
⑤ Reflection mirror
② Top plate
① Eight screws
(Hexagon head tapping screw)
Two claws

2-1-11. HIGHT-VOLTAGE CABLE INSTALLATION AND REMOVAL


(1) Remover
① Rubber cap
② HV cable,
turn 90°
(2) Installation
② Rubber cap
① HV cable
Hook
Gutter

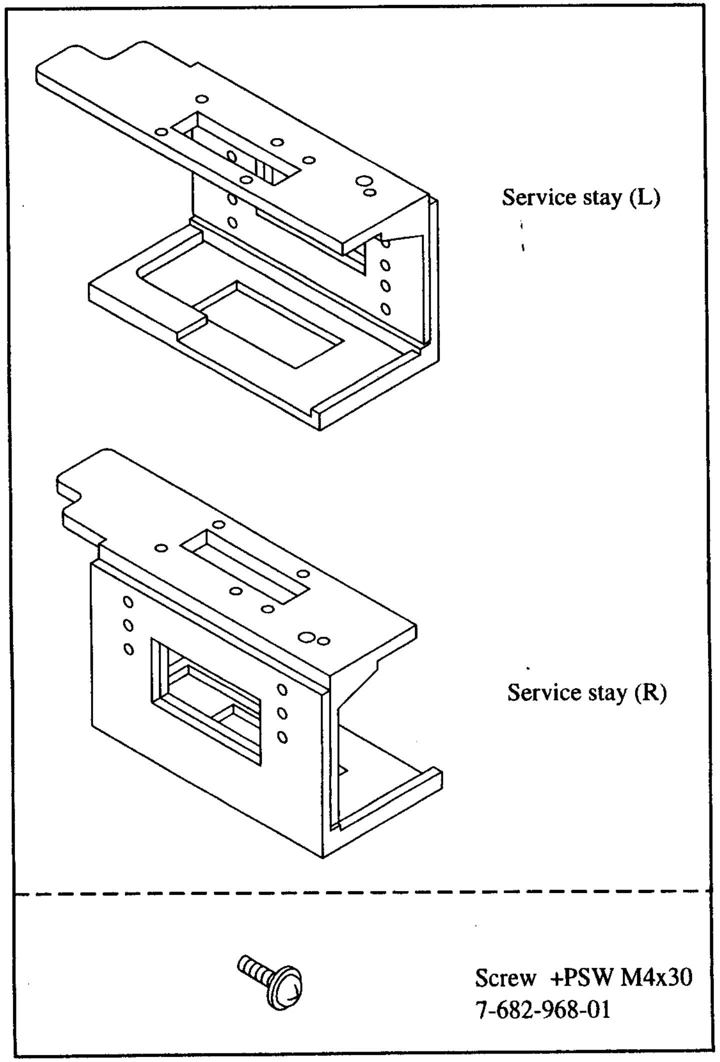
2-1-12. PICTURE TUBE REMOVAL


⑧ Tension spring
① Four screws
(+BVTP 4x16)
② Lens
⑥ Four screws
(+BVTP 4x16)
⑦ Picture tube (R)
⑤ Deflection yoke
④ Neck assy
③ CR board

Removing the arrow-marked screws is strictly prohibited.
If removed, it may cause liquid spill.

2-2.SERVICE STAY ASSY HOW TO USE AND CARRY BACK SERVICE STAY ASSY

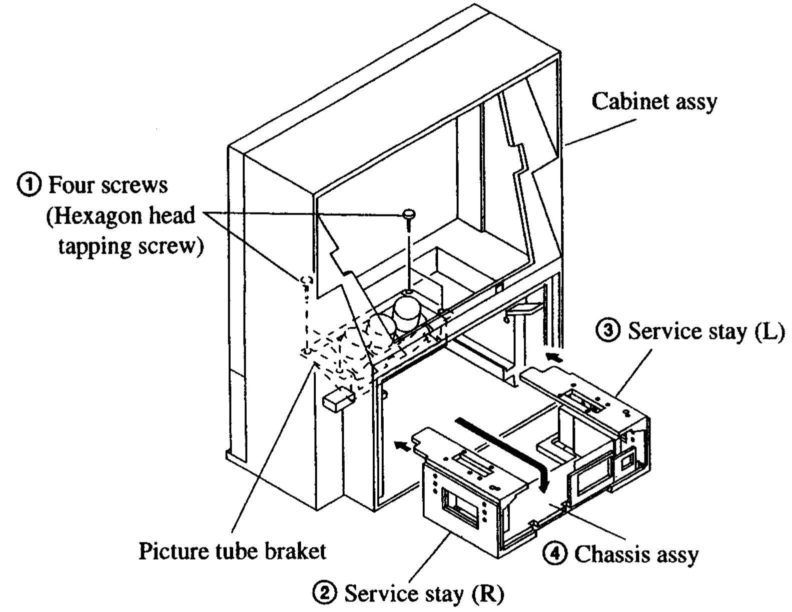
2-2-1.SERVICE STAY ASSY (X-4034-033-1)


Service stay (L)
Service stay (R)
Screw +PSW M4x30
7-682-968-01

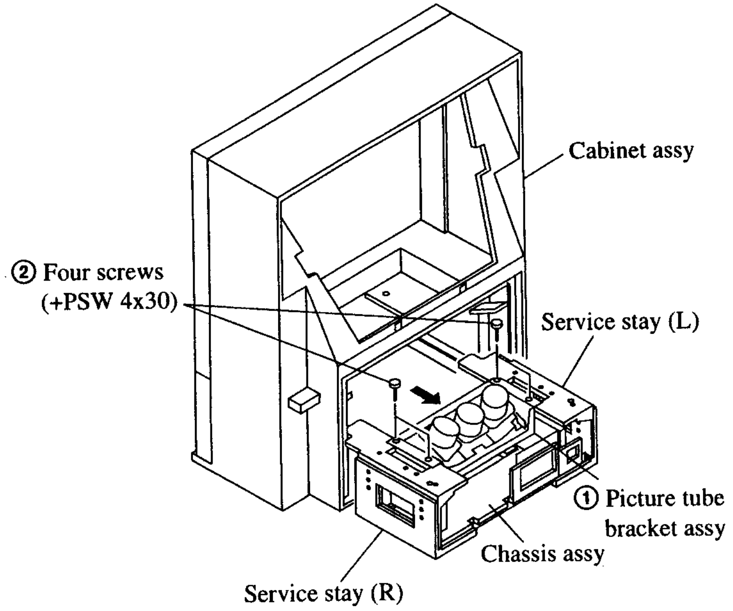
● PREPARATION

1) Remove the rear board and chassis assy while referring to the instructions.
2) Remove the control panel assy while referring to the instructions.
3) Remove the mirror cover while referring to the instructions.
4) Remove the harnesses from the purse lock.
5) Remove the connector from the speaker. (U board : CN2004, CN2008)

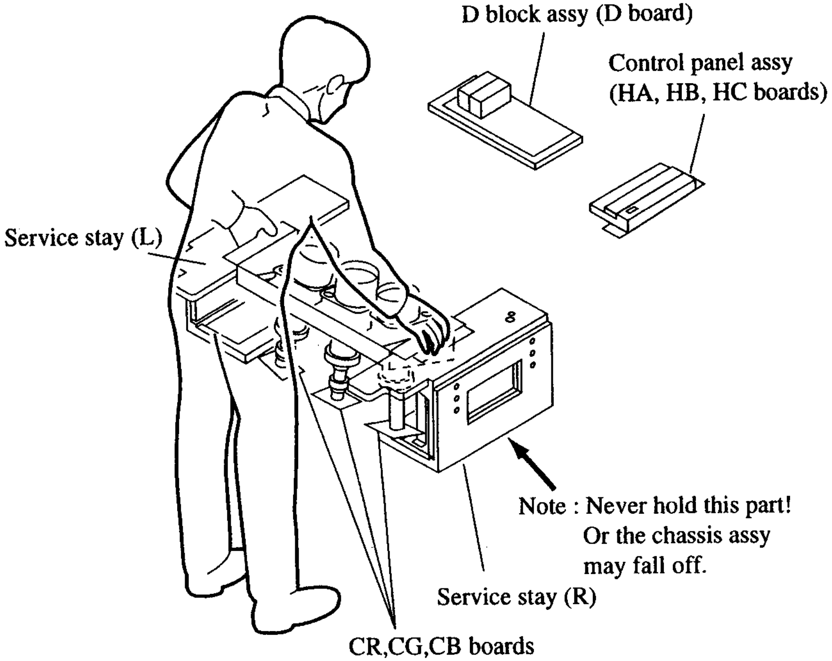
2-2-2. PICTURE TUBE BRACKET ASSY REMOVAL AND INSTALL A CHASSIS ASSY


Cabinet assy
① Four screws
(Hexagon head
tapping screw)
③ Service stay (L)
Picture tube braket
④ Chassis assy
② Service stay (R)

2-2-3. INSTALL A PICTURE TUBE BRACKET ASSY.


Cabinet assy
② Four screws
(+PSW 4x30)
Service stay (L)
① Picture tube
bracket assy
Chassis assy
Service stay (R)

2-2-4. CARRY BACK SERVICE STAY ASSY

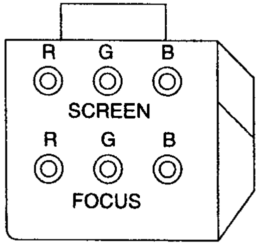
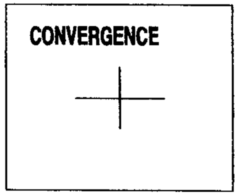
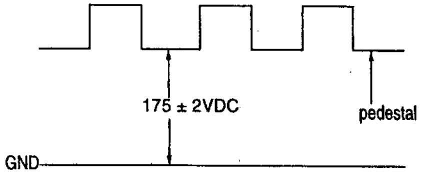

D block assy (D board)
Control panel assy
(HA, HB, HC boards)
Service stay (L)
Note : Never hold this part!
Or the chassis assy
may fall off.
Service stay (R)
CR,CG,CB boards

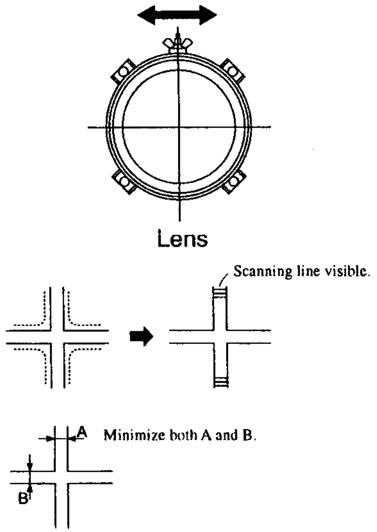
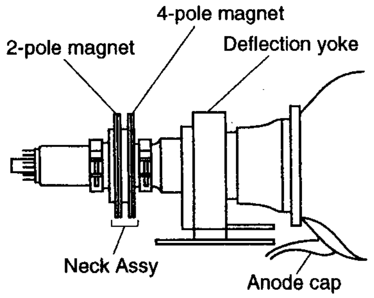
※ When carrying the chassis assy, be careful not to touch the CR,CG or CB boards with your legs.

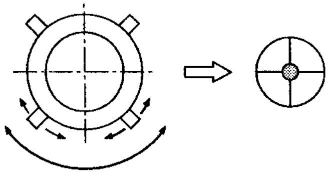
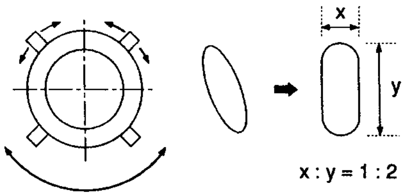
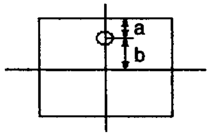
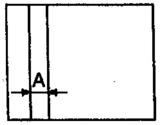
※ Even with 2 servicemen, be sure to put your hands in to the grooves on the top of service stays (L) and (R) to carry the chassis assy.

※ To hold the chassis assy, put your hands into the grooves on the top of service stays (L) and (R).

SECTION 3
SET-UP ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
SCREEN VOLTAGE ADJUSTMENT (ROUGH ALIGNMENT) 1. Turn the red VR on the FOCUS block all the way to the left and then gradually turn it to the right until the point where you can see the retrace line. 2. Next gradually turn it to the left to the position where the retrace line disappears.	Monoscope Pattern		PICTURE ....minimum BRIGHTNESS ....50% SCREEN (G2)	 FOCUS block
FOCUS LENS ADJUSTMENT 1. Loose the lens screw. 2. Set in service mode. 3. Use VSP on the service mode menu to shown only the green color. 4. Press the Commander Menu button and select FEATURES and CONVERGENCE to display the test signal on the screen. 5. Rotate the green lens and align with the optimal focus point from the test signal. 6. Use RRH from the service mode menu to set to green and red. 7. Output the test signal and rotate the red lens to obtain the optimum focus at the point where the red and green spots overlap. 8. Use RBH from the service mode menu to set to red and blue. 9. Output the test signal and rotate the blue lens to obtain the optimum focus at the point where the blue and red spots overlap. 10. Tighten the lens screw.				
SCREEN (G2) ADJUSTMENT 1. Select VIDEO mode without signals. 2. Connect an oscilloscope to the TP701(KR), TP731(KG) and TP761(KB) of CR board, CG board and CB board. 3. Adjust R, G and B screen voltage to 175 ± 2VDC with screen VR on the focusblock.				

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
FOCUS VR ADJUSTMENT 1. Set in service mode. 2. Use VSP on the service mode menu to shown only the green color. 3. Press the Commander Menu button (convergence) and output the test signal. 4. Rotate the green VR on the FOCUS block and align to obtain the optimal focus point. 5. Use RRH from the service mode menu to set to green and red. 6. Output the test signal and rotate the red VR to obtain the optimum focus at the point where the red and green spots overlap. 7. Use RBH from the service mode menu to set to red and blue. 8. Output the test signal and rotate the blue VR aligning to obtain the optimum focus at the point where the blue and green spots overlap.				 Lens Scanning line visible. A Minimize both A and B. B
DEFLECTION YOKE TILT ADJUSTMENT 1. Set in service mode. 2. Set to receive the monoscope signal. 3. Use VSP on the service mode menu to shown only the green color. 4. Loosen the deflection yoke setscrew and align the tilt of the Deflection Yoke so that the bars at the center of the monoscope pattern are horizontal. 5. After aligning the deflection yoke, fasten it securely to the funnel-shaped portion (neck) of the CRT. 6. The tilt of the deflection yoke for red is aligned with RRH on the service mode menu, and the tilt on the deflection yoke for green is aligned with RBH on the service menu, is aligned the same as was done for green.	Monoscope pattern			 4-pole magnet 2-pole magnet Deflection yoke Neck Assy Anode cap

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
2-POLE MAGNET ADJUSTMENT 1. Set in service mode. 2. Set to receive the dot pattern signal. 3. Place the caps on the red and blue lens so that only the green color is shown. 4. Turn the green VR on the focus block to the right and set to overfocus to enlarge the spot. 5. Now align the 2-Pole Magnet so that the enlarged spot is in the center of the Just Focus spot. 6. Align the green focus VR and set for just (precise) focus. 7. Perform the same alignment for red and blue.	Dot pattern		2-pole magnet	Use the center dot 
4-POLE MAGNET ADJUSTMENT 1. Set in service mode. 2. Set to receive the dot pattern signal. 3. Place the caps on the red and blue lens so that only the green color is shown. 4. Turn the green VR on the focus block to the left and set to underfocus to enlarge the spot. 5. Now align the 4-Pole Magnet so that the enlarged spot becomes a perfect circle.	Dot pattern		4-pole magnet	Use the center dot  x : y = 1 : 2
DEFOCUS ADJUSTMENT 1. Receive the crosshatch signal. 2. Adjust the FOCUS knob so that the crosshatch pattern vertical line width is as in the figure on the right.	Crosshatch pattern		FOCUS VR • RED • GREEN • BLUE	• Focus adjustment point  a : b=1 : 4  A : 61" ;14-16mm without flare

ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander (RM-901) can be performed circuit adjustments about this model.

NOTE : Test Equipment Required.

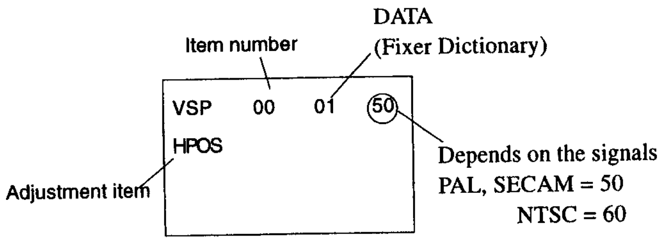
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio oscillator

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

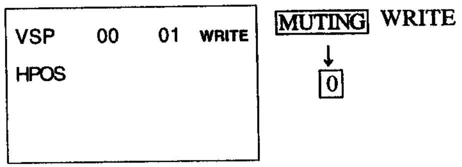
1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander.
   (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN


DATA
(Fixer Dictionary)
Item number
VSP 00 01 50
HPOS
Adjustment item
Depends on the signals
PAL, SECAM = 50
NTSC = 60

3. The CRT displays the item Being adjusted.
4. Press 1 or 4 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. If you want to recover the latest values press 7 then 0 to read the memory.
7. Press 5 then 0 to write initial data into memory.
8. Press MUTING then 0 to write into memory.

SERVICE ADJUSTMENT MODE MEMORY

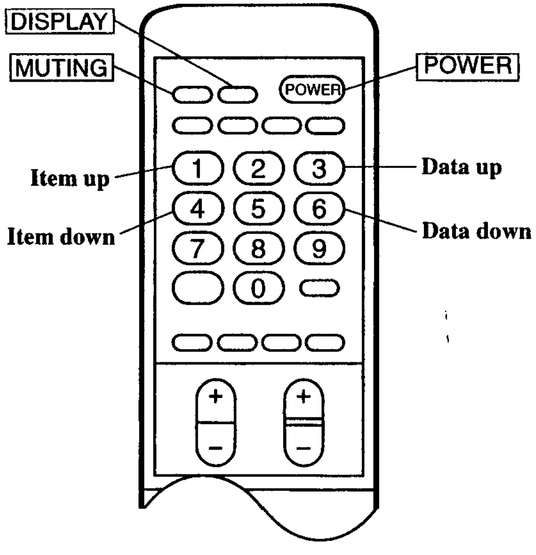

VSP 00 01 WRITE
HPOS
MUTING WRITE
0

9. Press 8 then 0 on the Remote Commander to initialize.
   (Be sure not to use usually)
10. Turn set off and on to exit.

2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again, confirm they were adjusted.

3. ADJUST BUTTONS AND INDICATOR



RM-901

4. SERVICE MODE LIST

VSP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
VSP	00	HPOS	0 ~ 63	28	28	H-SHIFT	CXD2018Q
	01	VSIZ	0 ~ 63	00	15	V-SIZE	
	02	VPOS	0 ~ 63	35	35	V-SHIFT	
	03	VSCO	0 ~ 15	07	07	S-CORRECTION	
	04	VLIN	0 ~ 15	08	08	V-LINEARITY	
	05	HSIZ	0 ~ 63	20	28	H-SIZE	
	06	HIPN	0 ~ 63	38	36	PIN-AMP	
	07	HKEY	0 ~ 31	15	15	TILT	
	08	UPCP	0 ~ 15	07	07	UPPER CORNER PIN	
	09	LOCP	0 ~ 15	06	06	LOWER CORNER PIN	
	10	HBOW	0 ~ 15	09	09	V-BOW	
	11	HSKE	0 ~ 15	08	08	V-ANGLE	

DP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
R GH	00	CENT	–127 ~ +128	07	00	GREEN. H CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	GREEN. H SKEW	
	02	BOW	–127 ~ +128	–01	–01	GREEN. H BOW	
	03	4BOW	–127 ~ +128	00	00	GREEN. H 4th BOW	
	04	SIZE	–127 ~ +128	09	00	GREEN. H SIZE	
	05	LIN	–127 ~ +128	06	–20	GREEN. H LINEARITY	
	06	MSIZ	–127 ~ +128	16	16	GREEN. H MIDDLE SIZE	
	07	MLIN	–127 ~ +128	06	06	GREEN. H MIDDLE LINEARITY	
	08	KEY	–127 ~ +128	00	00	GREEN. H KEY	
	09	SSKW	–127 ~ +128	14	14	GREEN. H SUB SKEW	
	10	MPIN	–127 ~ +128	–04	47	GREEN. H MIDDLE PIN	
	11	PIN	–127 ~ +128	47	02	GREEN. H PIN	
	12	SBOW	–127 ~ +128	–16	–16	GREEN. H SUB BOW	
	13	MBOW	–127 ~ +128	04	04	GREEN. H MIDDLE BOW	
	14	4PIN	–127 ~ +128	–11	–03	GREEN. H 4th PIN	
	15	4SBOW	–127 ~ +128	00	00	GREEN. H 4th SUB BOW	
R GV	00	CENT	–127 ~ +128	00	00	GREEN. V CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	GREEN. V SKEW	
	02	BOW	–127 ~ +128	16	16	GREEN. V BOW	
	03	SIZE	–127 ~ +128	–30	–06	GREEN. V SIZE	
	04	LIN	–127 ~ +128	22	22	GREEN. V LINEARITY	
	05	MSIZ	–127 ~ +128	–05	–05	GREEN. V MIDDLE SIZE	
	06	MKEY	–127 ~ +128	–05	–05	GREEN. V MIDDLE KEY	
	07	KEY	–127 ~ +128	–18	–18	GREEN. V KEY	
	08	SSKW	–127 ~ +128	01	01	GREEN. V SUB SKEW	
	09	MPIN	–127 ~ +128	–04	–04	GREEN. V MIDDLE PIN	
	10	PIN	–127 ~ +128	42	42	GREEN. V PIN	
	11	SBOW	–127 ~ +128	08	08	GREEN. V SUB BOW	
	12	WAVE	–127 ~ +128	–01	–01	GREEN. V WAVE	
	13	4PIN	–127 ~ +128	07	07	GREEN. V 4th PIN	
R RH	00	CENT	–127 ~ +128	–40	–04	RED. H CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	RED. H SKEW	
	02	BOW	–127 ~ +128	06	06	RED. H BOW	
	03	4BOW	–127 ~ +128	–01	–01	RED. H 4th BOW	
	04	SIZE	–127 ~ +128	10	–02	RED. H SIZE	
	05	LIN	–127 ~ +128	31	16	RED. H LINEARITY	
	06	MSIZ	–127 ~ +128	12	12	RED. H MIDDLE SIZE	
	07	MLIN	–127 ~ +128	–09	–09	RED. H MIDDLE LINEARTTY	
	08	KEY	–127 ~ +128	–08	–08	RED. H KEY	
	09	SSKW	–127 ~ +128	04	04	RED. H SUB SKEW	
	10	MPIN	–127 ~ +128	54	54	RED. H MIDDLE PIN	
	11	PIN	–127 ~ +128	–01	–01	RED. H PIN	

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
R RH	12	SBOW	–127 ~ +128	07	07	RED. H SUB BOW	
	13	MBOW	–127 ~ +128	21	21	RED. H MID BOW	
	14	4PIN	–127 ~ +128	–10	00	RED. H 4th PIN	
	15	4SBOW	–127 ~ +128	–13	00	RED. H 4th SUB BOW	
R RV	00	CENT	–127 ~ +128	00	–43	RED. V CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	RED. V SKEW	
	02	BOW	–127 ~ +128	17	17	RED. V BOW	
	03	SIZE	–127 ~ +128	70	00	RED. V SIZE	
	04	LIN	–127 ~ +128	24	24	RED. V LINEARITY	
	05	MSIZ	–127 ~ +128	–05	–05	RED. V MIDDLE SIZE	
	06	MKEY	–127 ~ +128	05	05	RED. V MIDDLE KEY	
	07	KEY	–127 ~ +128	05	05	RED. V KEY	
	08	SSKW	–127 ~ +128	01	01	RED. V SUB SKEW	
	09	MPIN	–127 ~ +128	–07	–07	RED. V MIDDLE PIN	
	10	PIN	–127 ~ +128	09	09	RED. V PIN	
	11	SBOW	–127 ~ +128	10	10	RED. V SUB BOW	
	12	WAVE	–127 ~ +128	29	29	RED. V WAVE	
	13	4PIN	–127 ~ +128	10	10	RED. V 4th PIN	
R BH	00	BSEL	0 / 1	01	00	RESISTRATION µ CON BSEL	CXP85112B-613S
	01	CENT	–127~ +128	–25	–08	BLUE. H CENTER	
	02	SKEW	–127 ~ +128	00	00	BLUE. H SKEW	
	03	BOW	–127 ~ +128	–01	–01	BLUE. H BOW	
	04	4BOW	–127 ~ +128	–03	–03	BLUE. H 4th BOW	
	05	SIZE	–127 ~ +128	–21	–21	BLUE. H SIZE	
	06	LIN	–127 ~ +128	–64	–64	BLUE. H LINEARITY	
	07	MSIZ	–127 ~ +128	22	22	BLUE. H MID SIZE	
	08	MLIN	–127 ~ +128	55	55	BLUE. H MID LINEARTIY	
	09	KEY	–127 ~ +128	–08	–08	BLUE. H KEYSTONE	
	10	SSKW	–127 ~ +128	24	24	BLUE. H SUB SKEW	
	11	MPIN	–127 ~ +128	34	34	BLUE. H MID PIN	
	12	PIN	–127 ~ +128	10	10	BLUE. H PIN	
	13	SBOW	–127 ~ +128	–34	–34	BLUE. H SUB BOW	
	14	MBOW	–127 ~ +128	–12	–12	BLUE. H MID BOW	
	15	4PIN	–127 ~ +128	–10	–01	BLUE. H 4th PIN	
	16	4SBOW	–127 ~ +128	05	05	BLUE. H 4th SUB BOW	
R BV	00	CENT	–127 ~ +128	00	–17	BLUE. V CENTER	CXP85112B-613S
	01	SKEW	–127 ~ +128	00	00	BLUE. V SKEW	
	02	BOW	–127 ~ +128	13	13	BLUE. V BOW	
	03	SIZE	–127 ~ +128	45	–38	BLUE. V SIZE	
	04	LIN	–127 ~ +128	20	20	BLUE. V LINEARITY	
	05	MSIZ	–127 ~ +128	–07	–07	BLUE. V MIDDLE SIZE	
	06	MKEY	–127 ~ +128	–21	–21	BLUE. V MIDDLE KEY	
R BV	07	KEY	–127 ~ +128	67	67	BLUE. V KEY	CXP85112B-613S
	08	SSKW	–127 ~ +128	04	04	BLUE. V SUB SKEW	
	09	MPIN	–127 ~ +128	–07	–07	BLUE. V MIDDLE PIN	
	10	PIN	–127 ~ +128	–29	–29	BLUE. V PIN	
	11	SBOW	–127 ~ +128	10	10	BLUE. V SUB BOW	
	12	WAVE	–127 ~ +128	–40	–40	BLUE. V WAVE	
	13	4PIN	–127 ~ +128	15	15	BLUE. V 4th PIN	

MCD

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
MCD	00	MHUE	0 ~ 31	17	13	SUB HUE OF MAIN PICTURE	TDA9141

SCD

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
SCD	01	YDLY	0 ~ 15	01	01	Y DELAY	TDA9143

RGB

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
RGB	00	SHUE	0 ~ 31	28	16	SUB HUE OF SUB PICTURE	TDA4780
	01	SCOL	0 ~15	10	11	SUB COLOR	
	02	SBRT	0 ~ 63	21	10	SUB BRIGHTNESS	
	03	RAMP	0 ~ 63	31	31	RED GAIN	
	04	GAMP	0 ~ 63	31	31	GREEN GAIN	
	05	BAMP	0 ~ 63	31	48	BLUE GAIN	
	06	RCUT	0 ~ 63	31	31	RED LEVEL REFERENCE	
	07	GCUT	0 ~ 63	45	31	GREEN LEVEL REFERENCE	
	08	BCUT	0 ~ 63	31	48	BLUE LEVEL REFERENCE	
	09	PDL	0 ~ 63	30	20	PEAK DRIVE LIMIT	
	10	GNMA	0 ~ 63	40	40	GAMMA	
	11	ADBL	0 / 1	00	00	ADAPTIVE BLACK	
	12	RELC	0 / 1	01	01	RELATIVE TO CUT-OFF	
	13	TCPL	0 / 1	01	01	TIME CONSTANT PEAK DRIVE LIMITER	

PIP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
PIP	00	AXIS	0 / 1	01	01	RGB AXIS	SDA9188-3X
	01	RDV	0 ~ 15	08	08	V READ DELAY	
	02	RDH	0 ~ 63	16	16	H READ DELAY	
	03	FRY	0 ~ 15	04	04	BRIGHTNESS OF THE BORDER FRAME	
	04	9V50	0 ~ 7	03	03	MULTI P IN P V 50Hz	
	05	9H50	0 ~ 7	03	03	MULTI P IN P H 50Hz	
	06	9V60	0 ~ 7	03	03	MULTI P IN P V 60Hz	
	07	9H60	0 ~ 7	03	03	MULTI P IN P H 60Hz	

TXT

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
TXT	00	BOXP	0 ~ 15	00	00		TPU3040
	01	TXH	0 ~ 255	05	05	H START POSITION	
	02	TXV	0 ~ 63	44	44	V START POSITION	
	03	VSP	0 ~ 255	59	59	V STOP POSITION	
	04	BSP	0 ~ 255	61	61	BLANKING STOP	
	05	BST	0 ~ 255	53	53	BLANKING START	
	06	QSF	0 ~ 31	01	01	ACQUSITION SOFT SLICER	
	07	A7F	0 ~ 255	10	10	VALUE OF ADRESS 007FH	
	08	QDT	0 ~ 63	13	13	ACQUSITION DATA SLICER	
	09	CST	0 ~ 255	00	00	CLAMPING START	
	10	CSP	0 ~ 255	80	80	CLAMPING STOP	
	11	LMT	0 / 1	00	00	LIMIT SLICER ADAPTION SWITCH	
	12	GMX	0 ~ 255	31	31	GAIN MAX	
	13	FMX	0 ~ 255	32	31	FILTER MAX	

AP

	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
AP	00	TVER	0 ~ 3	03	03	TPU VERSION (TC20=3)	MSP3410
	01	FAW	0 ~ 255	10	10	NICAM FAW THRESHOLD	
	02	CTM	0 ~ 255	08	08	NICAM ERROR BIT THRESHOLD (MONO->NICAM)	
	03	CTN	0 ~ 255	80	80	NICAM ERROR BIT THRESHOLD (NICAM->MONO)	
	04	WGO	0 ~ 255	10	10	WEST GERMAN STEREO LOW THRESHOLD	
	05	WGS	0 ~ 255	21	21	WEST GERMAN STEREO HIGH THRESHOLD	
	06	WGT	0 ~ 255	80	80	WEST GERMAN STEREO LOW 2 THRESHOLD	
	07	WGB	0 ~ 255	234	234	WEST GERMAN STEREO HIGH 2 THRESH	
	08	ACG	0 / 1	01	01	AGC AUTO / CONSTANT SWITCH	
	09	CDB	0 ~ 63	40	40	AGC GAIN VALUE AT CONSTANT MODE	
	10	FMP	0 ~ 127	34	34	FM MONO PRESCALE	
	11	WGP	0 ~ 127	60	60	WEST GERMAN STEREO PRESCALE	
	12	INIP	0 ~ 127	127	127	I NICAM PRESCALE	
	13	CRM	0 / 1	00	00	CARRIER MUTE FUNCTION	
	14	ACO	0 / 1	01	01	AUDIO CLOCK OUT OFF/ON	

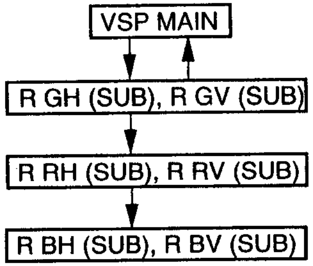
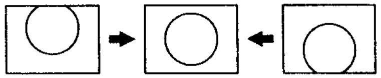
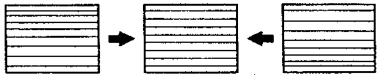
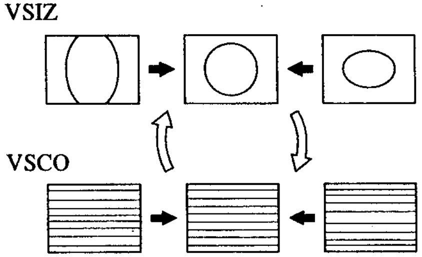
CPU

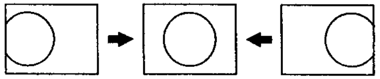
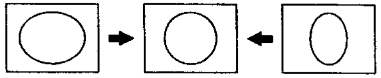
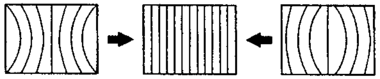
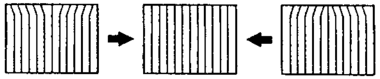
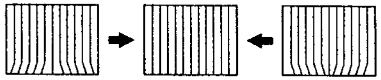
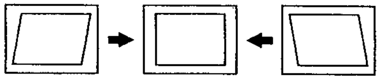
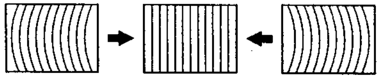
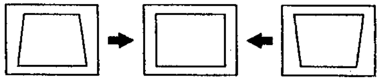
	Item number	Adjustment item	Data range	Standard data	Initial data	Note	Device
CPU	00	WAC	0 ~ 15	01	01	WEST GERMAN STEREO JUDGE CONSTANT	CXP5400
	01	OSH	0 ~ 63	11	13	OSD H POSITION	
	02	ODL	0 ~ 256	15	15	POWER ON DELAY	
	03	WIDE	0 / 1	00	00	RELAY FOR WIDE MODEL 0 : 4 : 3 1 : 16 : 9	
	04	TWIN	0 / 1	00	00	0 : Sub V FIELD PROCESSING 1 : Sub V FRAM PROCESSING	
	05	DSPC	0 / 1	01	01	0 : ENABLE RECEIVE OF CHANNEL IDENTICAL TO TWIN PICTURE 1 : DISABLE RECEIVE OF CHANNEL IDENTICAL TO TWIN PICTURE	
	06	SFTE	0 / 1	*00	01	SIFT ENABLE	
	07	SFTF	0 / 1	00	00	SIFT CHECK FACTORY	
	08	3 BCN	0 ~ 255	10	10		

* After registration adjustment is comleted, set the initial value to " 01 ".

01 : As a countermeasure against CRT image burnout, picture slightly shifts left and right (every 2 hours).

00 : No shift of picture (adjustment mode)

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
CONVERGENCE ADJUSTMENT ● When replacing the deflection yoke, always perform "DEFLECTION YOKE TILT ADJUSTMENT" before adjusting the convergence. Adjustment procedure  VSP MAIN R GH (SUB), R GV (SUB) R RH (SUB), R RV (SUB) R BH (SUB), R BV (SUB)				
• GREEN REGISTRATION ADJUSTMENT • V-SHIFT adjustment	Monoscope pattern or Crosshatch pattern		<VSP MENU> VSP VPOS	VPOS 
• V-LINEARITY adjustment			VSP VLIN	VLIN 
• V-SIZE, V-CORRECTION adjustment While tracking, adjust so that the lattice intervals for VSIZ and VSCO are equal.			VSP VSIZ VSP VSCO	

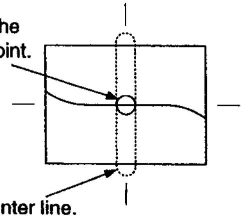
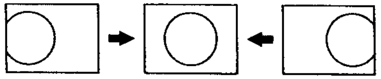
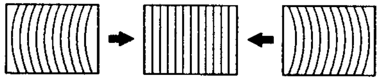
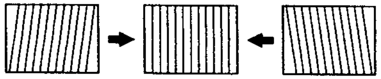
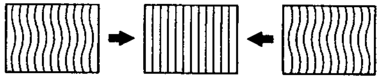
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
• H-SHIFT adjustment			VSP HPOS	HPOS 
• H-SIZE adjustment Finely adjust with SUB MSIZE.			VSP HSIZ	HSIZ 
• PIN-AMP adjustment Finely adjust with SUB MPIN.			VSP HPIN	HPIN 
• UPPER/LOWER-CORNER PIN adjustment Correct the screen top and bottom section line bow. However, if this adjustment is overdone, distortion may occur with the PIN-AMP adjustment that can not be adjusted away. Note : The PIN-AMP adjustment adjusts the overall screen from top to bottom, but the UPPER/LOWER-CORNER PIN adjustments have just large movement in the top and bottom sections, so be careful.			VSP UPCP VSP LOCP	UPCP  LOCP 
• V-ANGLE, V-BOW adjustment Correct the tilt and bow of the vertical line at the center of the screen.			VSP HSKE VSP HBOW	HSKE  HBOW 
• TILT adjustment Adjust to eliminate the tilt of one of the two vertical lines at both ends of the screen.			VSP HKEY	HKEY 

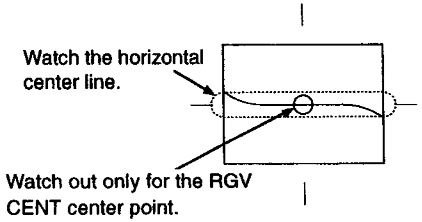
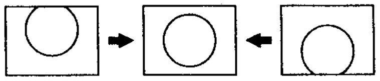
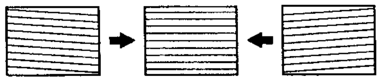
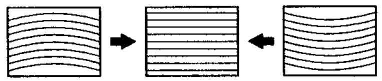
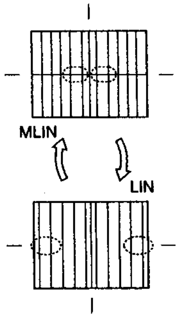
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER

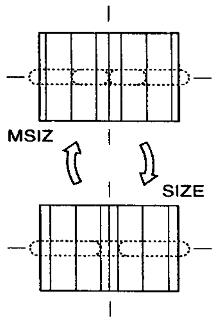
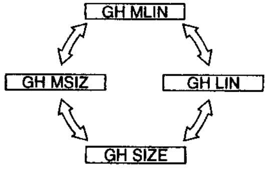
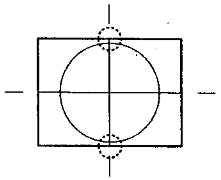
CONVERGENCE SUB ADJUSTMENT

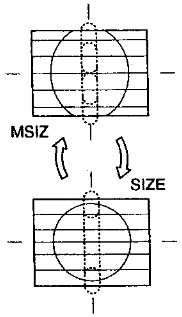
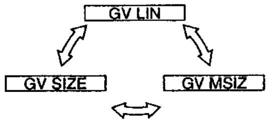
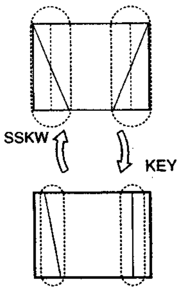
Adjustment O : Yes – : No

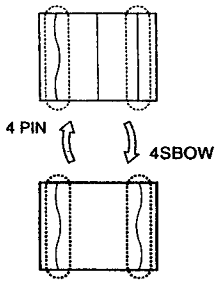
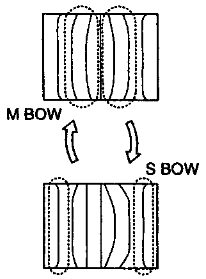
Display	Adjustment item	Adjustment type					
		RGH	RGV	RRH	RRV	RBH	RBV
BSEL	COL SELECT	–	–	–	–	O	–
CENT	CENT	O	O	O	O	O	O
SKEW	SKEW	O	O	O	O	O	O
BOW	BOW	O	O	O	O	O	O
4BOW	4TH BOW	O	–	O	–	O	–
SIZE	SIZE	O	O	O	O	O	O
LIN	LIN	O	O	O	O	O	O
MSIZ	MID SIZE	O	O	O	O	O	O
MLIN	MID LIN	O	O	O	–	O	–
MKEY	MID KEY	–	O	–	O	–	O
KEY	KEY	O	O	O	O	O	O
SSKW	SUB SKEW	O	O	O	O	O	O
MPIN	MID PIN	O	O	O	O	O	O
PIN	PIN	O	O	O	O	O	O
SBOW	SUB BOW	O	O	O	O	O	O
WAVE	WAVE	–	O	–	O	–	O
MBOW	MID BOW	O	–	O	–	O	–
4PIN	4TH PIN	O	O	O	O	O	O
4SBOW	4TH SUB BOW	O	–	O	–	O	–

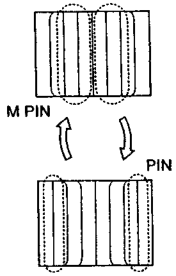
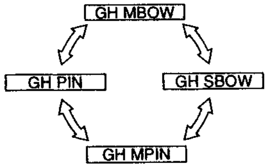
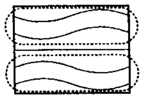
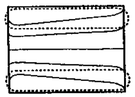
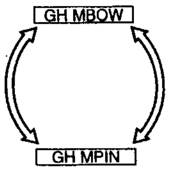
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
• GREEN SUB ADJUSTMENT **SCREEN CENTER SECTION GREEN VERTICAL LINE ADJUSTMENT** 1. Finely adjust with RGH CENT, RGH BOW, RGH SKEW. Adjust watching out for the RGH CENT screen center section.			<RGH MENU> RGH CENT RGH BOW RGH SKEW	 Watch out only for the GH CENT center point. Watch the vertical center line. RGH CENT  RGH BOW  RGH SKEW 
2. RGH 4TH BOW adjustment Correct the corner distortion that could not be adjusted away with the RGH BOW adjustment.			RGH 4BOW	RGH 4BOW 

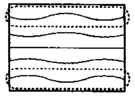
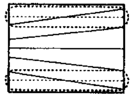
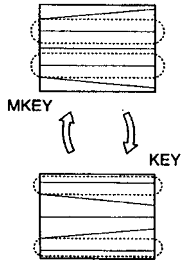
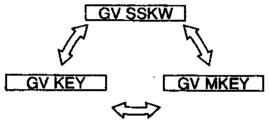
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
SCREEN CENTER SECTION GREEN HORIZONTAL LINE ADJUSTMENT 1. Finely adjust the center position of the vertical line at the center of the screen with RGV CENT.			<RGV MENU> RGV CENT	 Watch the horizontal center line. Watch out only for the RGV CENT center point. RGV CENT 
2. Correct the tilt and bow of the horizontal line at the center of the screen with RGV SKEW and RGV BOW.			RGV SKEW RGV BOW	RGV SKEW  RGV BOW 
GREEN SIZE AND LINEARITY ADJUSTMENT 1. Balance the sizes at both sides of the center section of the screen with RGH MLIN. 2. Balance the sizes on both end sections of the screen with RGH LIN. 3. While tracking, adjust with RGH MLIN and RGH LIN so that the sizes of the horizontal line at the center of the screen are symmetrical left and right.			<RGH MENU> RGH MLIN RGH LIN	

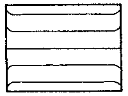
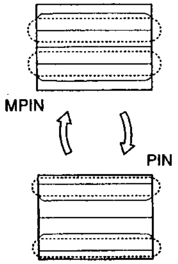
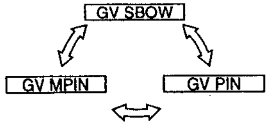
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN HORIZONTAL SIZE ADJUSTMENT 1. Adjust with RGH MSIZE so that the sizes of both edges and of both sides of the center section of the screen are equal. 2. Adjust with RGH SIZE so that the horizontal sizes of both edges and of both sides of the center section of the screen are equal. 3. While tracking, adjust with RGH MSIZ and RGH SIZE so that the lattice intervals for the horizontal line section of the center section of the screen are equal and so that the horizontal size is the prescribed value. 4. If M LIN is changed when the RGH MSIZ and RGH SIZE adjustment is complete, adjust again while tracking.			<RGH MENU> RGH MSIZ RGH SIZE	 
●With just the H SIZE adjustment in MAIN, if there is no need to adjust RGH SIZE in SUB this can save power.				
GREEN VERTICAL LINEARITY ADJUSTMENT 1. Adjust RGV LIN so that the vertical lines at the top and bottom of the screen are symmetrical.			<RGV MENU> RGV LIN	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN VERTICAL SIZE ADJUSTMENT 1. Adjust with RGV MSIZE so that the sizes for the top and bottom sections of the screen and for both sides of the center section of the screen are equal. 2. Set the vertical size to the prescribed value with RGV SIZE. 3. Adjust RGV MSIZ and RGV SIZE watching the vertical line at the center section of the screen. 4. While tracking, adjust with RGV MSIZ and RGV SIZE so that the lattice intervals for the vertical line section of the center section of the screen are equal and so that the vertical size is the regulation value. 5. If RGV LIN is out of place when the RGV MSIZ and RGV SIZE adjustment is complete, adjust again while tracking. ●If there is no need to adjust RGV SIZE in SUB with just the V SIZE adjustment in MAIN, this can save power.			<RGV MENU> RGV MSIZ RGV SIZE	 
GREEN HORIZONTAL TRAPEZOIDAL DISTORTION ADJUSTMENT 1. Adjust with RGH SSKW so that the tilt of the vertical lines at both edges of the screen is symmetrical left and right. 2. Adjust with RGH KEY so that there is no tilt in the vertical lines at both edges of the screen. 3. If there is a tilt on either the left or right after the RGH KEY adjustment, adjust while tracking.			<RGV MENU> RGH SSKW RGH KEY	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN HORIZONTAL QUATERNARY ADJUSTMENT 1. Correct the quaternary distortion with RGH 4PIN. 2. While balancing, correct the quaternary distortion of both end sections of the screen with RGH 4SBOW. 3. While tracking, adjust with RGH 4PIN and RGH 4SBOW.			<RGH MENU> RGH 4PIN RGH 4SBOW	
GREEN HORIZONTAL ASYMMETRICAL PIN DISTORTION ADJUSTMENT 1. Adjust with RGH MBOW so that the pin asymmetry at both sides of the center section of screen is symmetrical. 2. Adjust with RGH SBOW so that the bow at both end sections of the screen is symmetrical left and right. 3. While tracking, adjust with RGH MBOW and RGH SBOW so that the bow of vertical lines on the entire screen is symmetrical left and right.			<RGH MENU> RGH MBOW RGH SBOW	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN HORIZONTAL SYMMETRICAL PIN DISTORTION ADJUSTMENT 1. Adjust the pin distortion at both sides of the center section of the screen with RGH MPIN. 2. Adjust the pin distortion at both end sections of the screen with RGH PIN. 3. While tracking, adjust with RGH MPIN and RGH PIN so that the PIN of vertical lines on the entire screen have no bowing. 4. If there is asymmetrical pin distortion after the RGH MPIN and RGH PIN adjustments, adjust with RGH MBOW and RGH SBOW while tracking.			<RGH MENU> RGH MPIN RGH PIN RGH MBOW RGH SBOW	 
●With just the PIN AMP adjustment in MAIN, if there is no need to adjust RGV PIN in SUB, this can save power.				
GREEN VERTICAL WAVE (TERTIARY DISTORTION) ADJUSTMENT 1. Take the screen top and bottom horizontal lines with RGV WAVE and find the secondary and quaternary waveform. 2. There is KEY distortion after the RGV WAVE adjustment, so adjust with GV WAVE and RGV KEY while tracking.			<RGV MENU> RGV WAVE RGV KEY	RGV WAVE  RGV KEY  

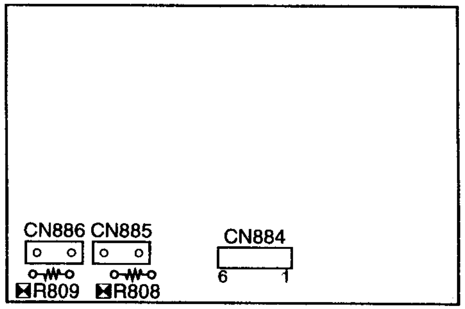
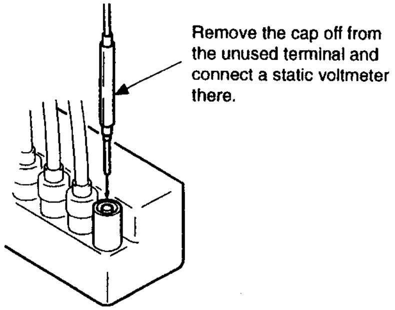
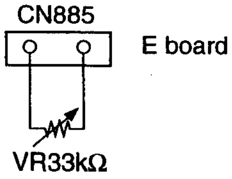
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN VERTICAL QUATERNARY DISTORTION ADJUSTMENT			<RGV MENU>	
1. Correct the quaternary distortion of the horizontal lines at the top and bottom sections of the screen with RGV 4PIN.			RGV 4PIN	RGV 4PIN 
1) Since there is no 4SBO for vertical correction, there will be a slight imbalance, but adjust to eliminate the distortion from the horizontal line at either the top or the bottom of the screen. 2) In many cases, the horizontal lines at the top and bottom sections of the screen are not straight lines after the adjustment. As long as the secondary distortion is mild enough that it can be corrected with the PIN adjustment, this is OK.				
GREEN VERTICAL TRAPEZOIDAL DISTORTION ADJUSTMENT			<RGV MENU>	
1. Adjust with RGV SSKW so that the tilt of the horizontal lines at the top and bottom sections of the screen is symmetrical about the center position horizontal line.			RGV SSKW	RGV SSKW 
2. Adjust with RGV MKEY so that there is no tilt for the line sections at both sides of the horizontal lines at the center section of the stream.			RGV MKEY	
3. Adjust with RGV KEY so that there is no tilt for the horizontal lines at the top and bottom sections of the screen.			RGV KEY	
4. While tracking, adjust with RGV MKEY and RGV KEY so that there is no tilt for the horizontal lines on the entire screen.				
5. If the tilt is unbalanced after the RGV MKEY and RGV KEY adjustment, adjust again with RGV SSKW.			RGV SSKW	

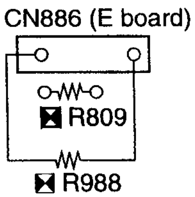
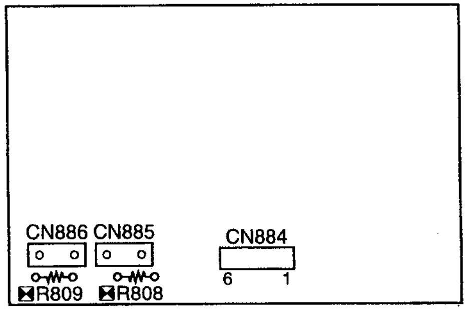
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN VERTICAL ASYMMETRICAL PIN DISTORTION (SECONDARY DISTORTION) ADJUSTMENT 1. Correct the asymmetrical pin distortion at the top and bottom sections of the screen with RGV SBOW.			<RGV MENU> RGV SBOW	RGV SBOW 
GREEN VERTICAL ASYMMETRICAL PIN DISTORTION ADJUSTMENT 1. Adjust the pin distortion for both side sections and the center of the screen with RGV MPIN. 2. Adjust with RGV PIN so that the horizontal lines at the top and bottom sections of the screen are straight lines. 3. Adjust with RGV MPIN and RGV PIN so that there is no curve in the horizontal lines on the entire screen.			<RGV MENU> RGV MPIN RGV PIN	
4. After the adjustments in Items 1-3, adjust the tracking with RGV SBOW, RGV MPIN, and RGV PIN.			RGV SBOW	

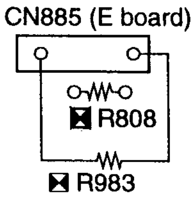
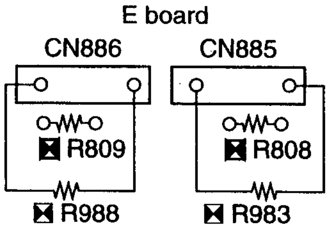
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
GREEN AND RED REGISTRATION ADJUSTMENT (RRH, RRV) 1. Receive a PAL cross-hatch signal. 2. Adjust so that the red lines lay on the green lines. Adjust with the same procedure as the GREEN SUB adjustment. Notes: 1. The main correction is not carried out during red registration adjustment. 2. Beware. The green adjustment items can be changed by mistake. 3. Unlike for green, adjust within the range -127 ~ +128.	PAL Cross-hatch pattern			
GREEN AND BLUE REGISTRATION ADJUSTMENT (RBH, RBV) 1. Receive a PAL cross-hatch signal. 2. Adjust so that the blue and green lines are on top of each other. Notes : 1. The main correction is not carried out during RED registration adjustment. 2. Beware. The GREEN and RED adjustment items can be changed by mistake.	PAL Cross-hatch pattern			

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
AGC ADJUSTMENT 1. Receive an off-air signal. 2.Adjust the AGC VR (IF 1002) so that there is no snow noise and cross-modulation.				
WHITE BALANCE ADJUSTMENT 1. Receive the monoscope pattern signal and adjust the picture quality with the menu.	Monoscope pattern		PICTURE .... minimum	
2. Adjust service mode SBRT so that the signal 10 IRE section barely glows.			< RGB MENU > SBRT	
3. Receive the all-white pattern signal.	All White pattern			
4. Adjust the white balance with service mode GCUT and BCUT.			GCUT BCUT	
5. Adjust service mode SBRT so that the signal 100 IRE section barely glows.			PICTURE .... minimum	
6. Adjust the white balance with service mode GAMP and BAMP.			GAMP BAMP	
7. Repeatedly adjust the white balance for the minimum and maximum picture settings.			PICTURE .... maximum	

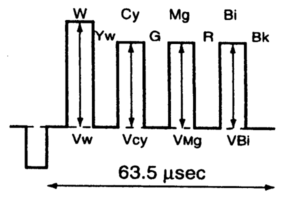
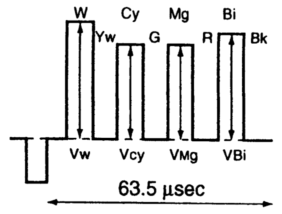
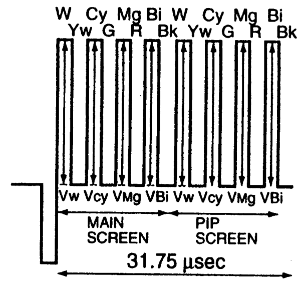
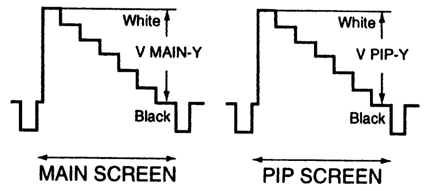
SECTION 4
SAFETY RELATED ADJUSTMENTS

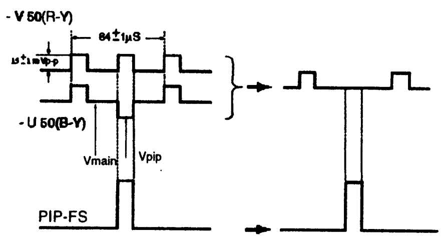
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
HV HOLD DOWN CIRCUIT OPERATIONS CHECK AND ADJUSTMENT (⧓ RESISTOR) When replacing the parts marked ◪ on the right, check the HV hold down and adjust.		◪ marked parts C818, D804, D806, D809, D909, D912, Q915, R809, R855, R856, R857, R858, R883, R954, R955, R984, R988, R991, R995, R996, T801(FBT),T803 .... E board HV Block	⧓ R809, R988	E BOARD – COMPONENT SIDE – 
1. Remove the cap for the unconnected pin in the high-voltage block and connect a Static Voltmeter. 2. Input 240 VAC power.	Static Voltmeter	HV Block		Remove the cap off from the unused terminal and connect a static voltmeter there.
3. Receive the Dot siganl and set the PICTURE and BRIGHTNESS settings to their minimums.	Dot pattern		PICTURE .... minimum BRIGHTNESS .... minimum	
4. Connect a 33 k variable resistor across the E board CN885 connector (with the variable resistor set to its maximum).				

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
5. Gradually lower the value of the variable resistor and check that the hold down circuit operates at a Static Voltmeter reading of 33.70 ± 0.80 kVDC and that the rasters disappear.				33.70 ± 0.80 kVDC
6. If the hold down circuit operates and the rasters disappear at a Static Voltmeter reading of 34.0kVDC or higher, remove resistor R809 and mount a 16.0 k 1/4W RN at R988.			R988	34.0 kVDC or higher 16.0 k 1/4W 
If the hold down circuit operates and the rasters disappear at a Static Voltmeter reading of 32.0 kVDC or lower, remove resistor R809 and mount 6.2 k 1/4W RN at R988.			R988	32.0 kVDC or lower 6.2 k 1/4W
7. Check Item 5 again.				
HV REGULATION CIRCUIT CHECK AND ADJUSTMENT (⧓ RESISTOR)			⧓ R808, R983	
When replacing the parts marked ◩ on the right, check the HV regulation and adjust.		◩ marked parts C918, C930, C934, C980, D920, Q909, R808, R851, R936, R939, R942, R944, R945, R946, R947, R950, R960, R965, R967, R971, R975, R976, R982, R983, R985, R998 .... E Board HV Block		E BOARD – COMPONENT SIDE – 
1. Remove the cap for the unconnected pin in the high-voltage block and connect a Static Voltmeter.	Static Voltmeter	HV Block		
2. Input 240 VAC power.				
3. Receive the Dot signal and set the PICTURE and BRIGHTNESS settings to their minimums.	Dot pattern		PICTURE .... minimum BRIGHTNESS .... minimum	

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
4. Check that the Static Voltmeter reading is 31.0 ± 0.5 kVDC.				31.0 ±0.5 kVDC
5. If the Static Voltmeter reading is 30.4 kVDC or lower, remove resistor R808 and mount 5.6 k 1/4W RN at R983.			R983	30.4 kVDC or lower 5.6 k 1/4W 
6. If the Static Voltmeter reading is 31.5 kVDC or higher, remove resistor R808 and mount 8.2 k 1/4W RN at R983.			R983	31.5 kVDC or higher 8.2 k 1/4W
7. If the Static Voltmeter reading is 32.0 kVDC or higher, remove resistor R808 and mount 10.0 k 1/4W RN at R983.			R983	32.0 kVDC or higher 10.0 k 1/4W
8. If any of Items 5, 6 or 7 has been implemented, check Item 4 again.				
HV HOLD DOWN AND HV REGULATOR SIMPLE ADJUSTMENT It is normally desirable that the HV hold down and HV regulation checks use a Static-voltmeter. However, sometime one is not available, for example in the field, below is a simple adjustment method. When replacing parts with the ◪ mark, replace both the resistors with the ⧗ mark R808 (R983) and R809 (R988) with resistors one rank lower in the E-12 series. Do not replace just one of these resistors. Always replace both with resistors one rank lower.			R808 (R983) R809 (R988)	 E board CN886 CN885 ⧗ R809 ⧗ R808 ⧗ R988 ⧗ R983

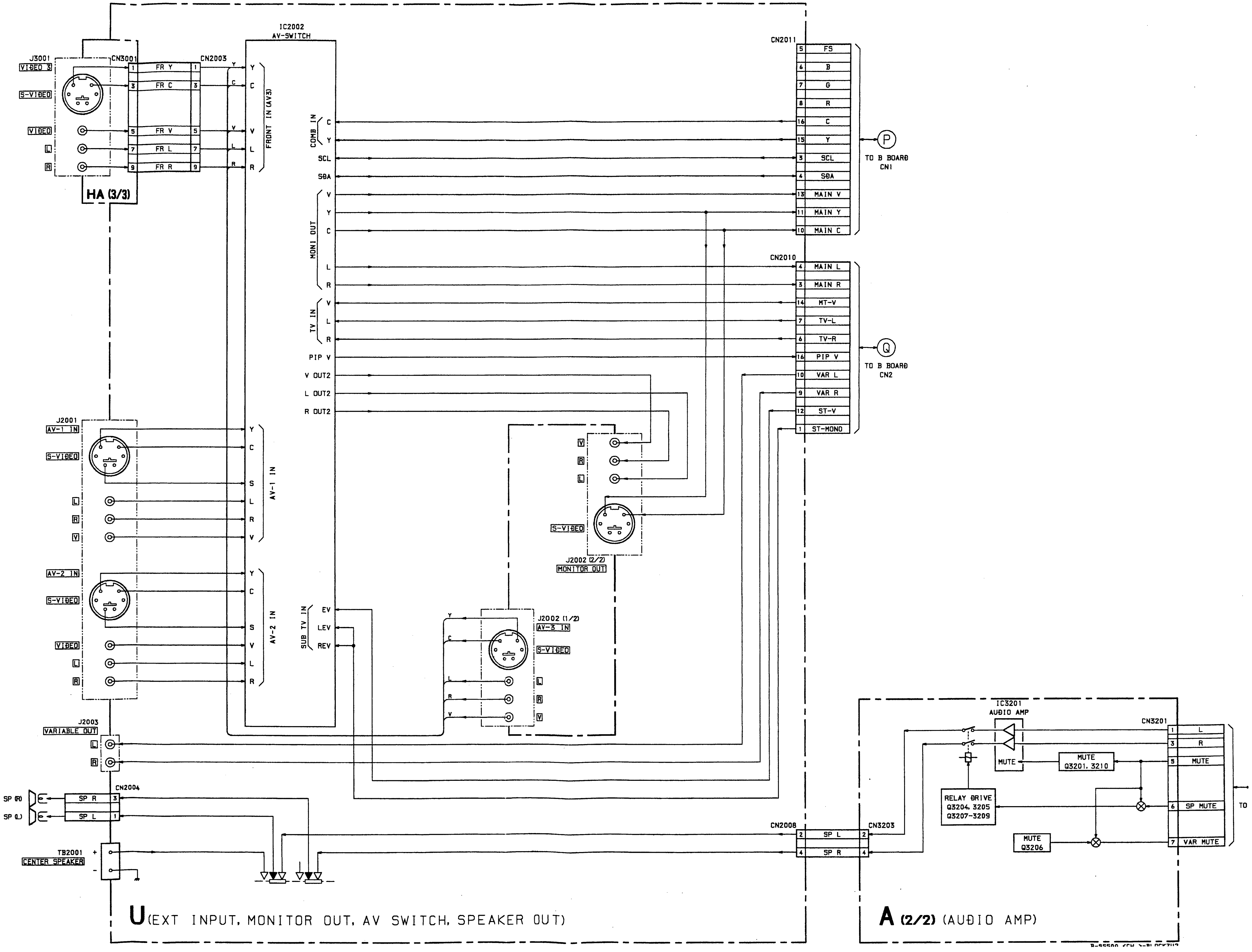
SECTION 5
ELECTRICAL ADJUSTMENTS

ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
B BOARD ADJUSTMENT **SUB COLOR (SCOL) ADJUSTMENT** 1. Input the PAL Color Bar signal and adjustment the picture control. 2. Set to service mode. 3. Connect an oscilloscope between ⑤ pin of CN201 and ground. 4. Adjust SCOL so that Vcy = VMg = VBi in the waveform levels. 5. Write the data to memory.	PAL Color Bar pattern Oscilloscope	CN201 ⑤ pin (B(2/3) Board)	PICTURE .... 80% RGB SCOL : Vcy =VMg=VBi	<CN201 ⑤ pin>  W Cy Mg Bi Yw G R Bk Vw Vcy VMg VBi 63.5 µsec
SUB HUE (MHUE,SHUE) ADJUSTMENT 1. Input the NTSC Color Bar signal. 2. Set to service mode. 3. Connect an oscilloscope between ⑤ pin of CN201 and ground. 4. Adjust MHUE so that Vcy = VMg in the waveform levels. 5. Write the data to memory.	NTSC Color Bar pattern Oscilloscope	CN201 ⑤ pin (B(2/3) Board)	MCD MHUE : Vcy =VMg	<CN201 ⑤ pin>  W Cy Mg Bi Yw G R Bk Vw Vcy VMg VBi 63.5 µsec
(PIP MODE) 1. Input the NTSC Color Bar signal. 2. Select PIP on screen mode and put the set into service mode. 3. Connect an oscilloscope between ⑤ pin of CN201 and ground. 4. Adjust SHUE so that Vcy = VMg in the waveform levels. 5. Write the data to memory.	NTSC Color Bar pattern Oscilloscope	CN201 ⑤ pin (B(2/3) Board)	SCD SHUE : Vcy =VMg	(PIP MODE) < CN201 ⑤ pin >  W Cy Mg Bi W Cy Mg Bi Yw G R Bk Yw G R Bk Vw Vcy VMg VBi Vw Vcy VMg VBi MAIN SCREEN PIP SCREEN 31.75 µsec
SUB CONTRAST ADJUSTMENT (PIP MODE) 1. Input the PAL Color Bar signal. 2. Select PIP on screen mode and put the set into service mode. 3. Connect an oscilloscope Q14 emitter on the B(1/3) board and ground. 4. Adjust SCON so that V MAIN-Y = V PIP-Y in the waveform levels. 5. Write the data to memory.	PAL Color Bar pattern Oscilloscope	Q14 emitter (B(1/3) Board)	PIP SCON: V MAIN-Y =V PIP-Y	(PIP MODE) < B(1/3) board - Q14 emitter >  White V MAIN-Y Black White V PIP-Y Black MAIN SCREEN PIP SCREEN

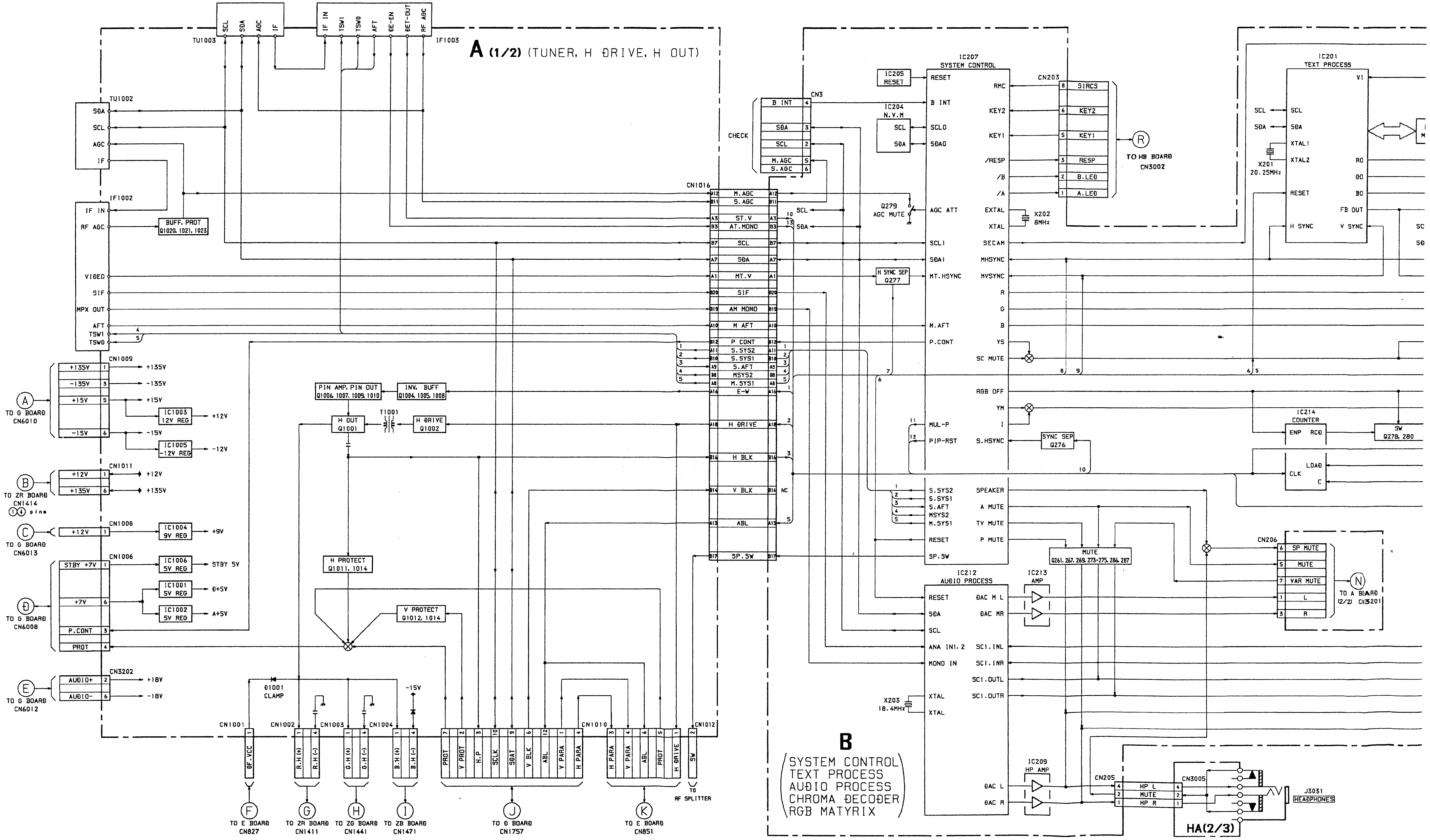
ADJUSTMENT ITEM AND PROCEDURE	EQUIPMENT AND SIGNAL	MEASUREMENT POSITION	ADJUSTMENT LOCATION	ILLUSTRATION AND SHAPE AND NUMBER
SUB WHITE BALANCE ADJUSTMENT (PIP MODE) 1. Input Gray Scale signal 20 IRE. 2. Select PIP in screen mode and put the set into service mode. 3. Connect an oscilloscope Q15 emitter on the B(1/3) board and ground. 4. Adjust RV1 so that V main = Vpip in the waveform levels. 5. Connect an oscilloscope Q16 emitter on the B(1/3) board and ground. 6. Adjust RV2 so that V main = Vpip in the waveform levels.	Oscilloscope	[B(1/3) Board] Q15 emitter (R-Y) Q16 emitter (B-Y) Q35 emitter (PIP-FS)	[B(1/3) Board] RV1 (R-Y) RV2 (B-Y)	< Q15 emitter, Q16 emitter >  - V 50(R-Y) 64±1µS - U 50(B-Y) Vmain Vpip PIP-FS
P IN P POSITION ADJUSTMENT 1. Upon receiving the Monoscope signal. 2. Set service mode and then press the PIP command twice. The P in P positon will then move periodically to four points. Adjust " RDV " and " RDH " on the new screen so that the four points are distributed equally at ; up, down, left and right. 3. Write the data to memory.	Monoscope pattern		< PIP MENU > RDV RDH	
TEXT POSITION ADJUSTMENT 1. Receive the RF signal with TEXT. 2. Set to service mode. 3. Set the TEXT in MIX mode and adjust the screen positon with " TXH " and " TXV ". 4. Write the data to memory.			< TXT MENU > TXH (H position) TXV (V position)	
OSD POSITION ADJUSTMENT 1. Receive the PAL Color Bar signal. 2. Set to service mode. 3. Adjust " OSH " so that the center line of the signal and the center of the crosshairs of the OSD display match are aligned with each other. 4. Write the data to memory.	PAL Color Bar pattern		< CPU MENU > OSH	

SECTION 6
DIAGRAMS

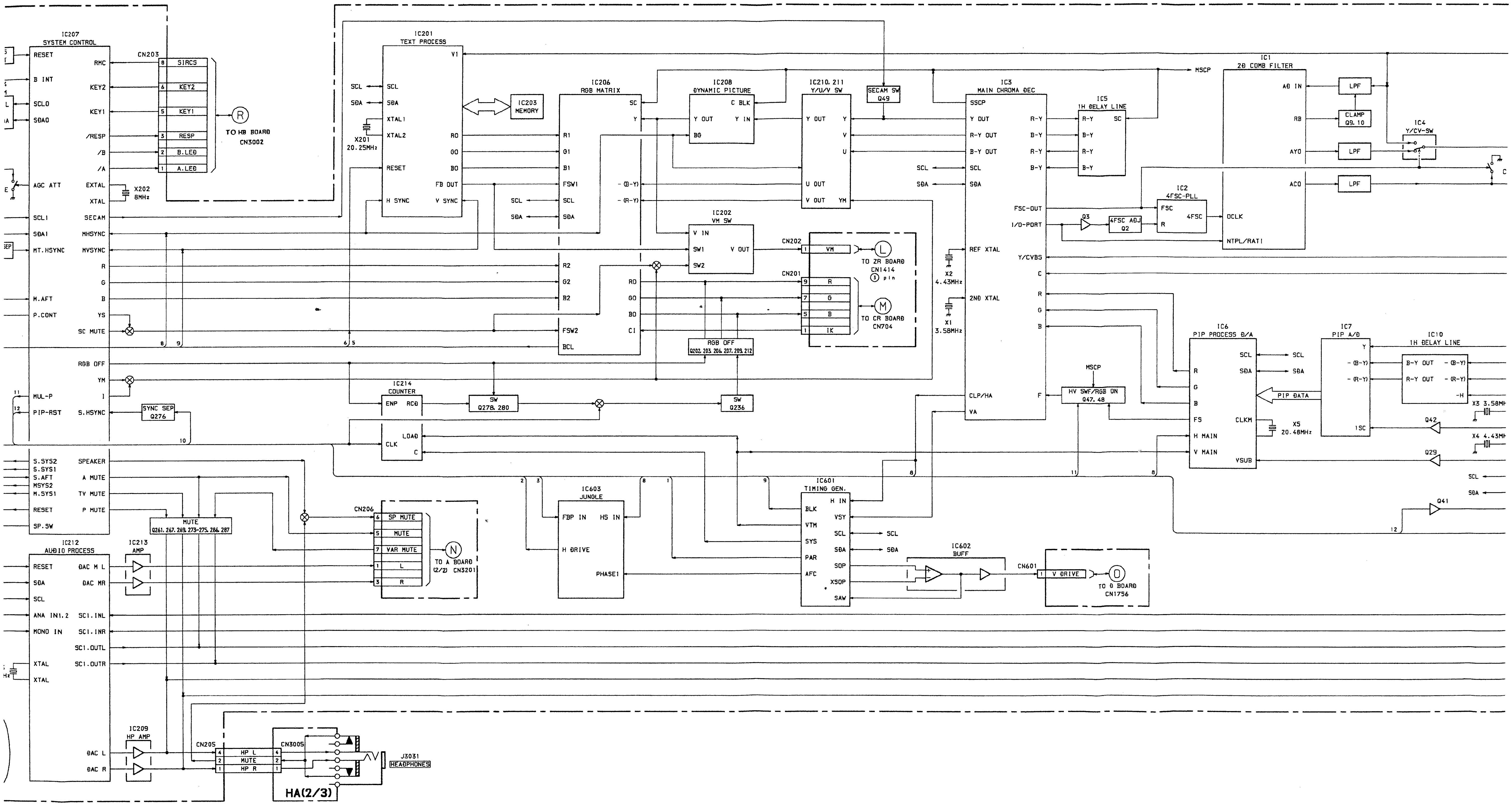
6-1. BLOCK DIAGRAM (1)

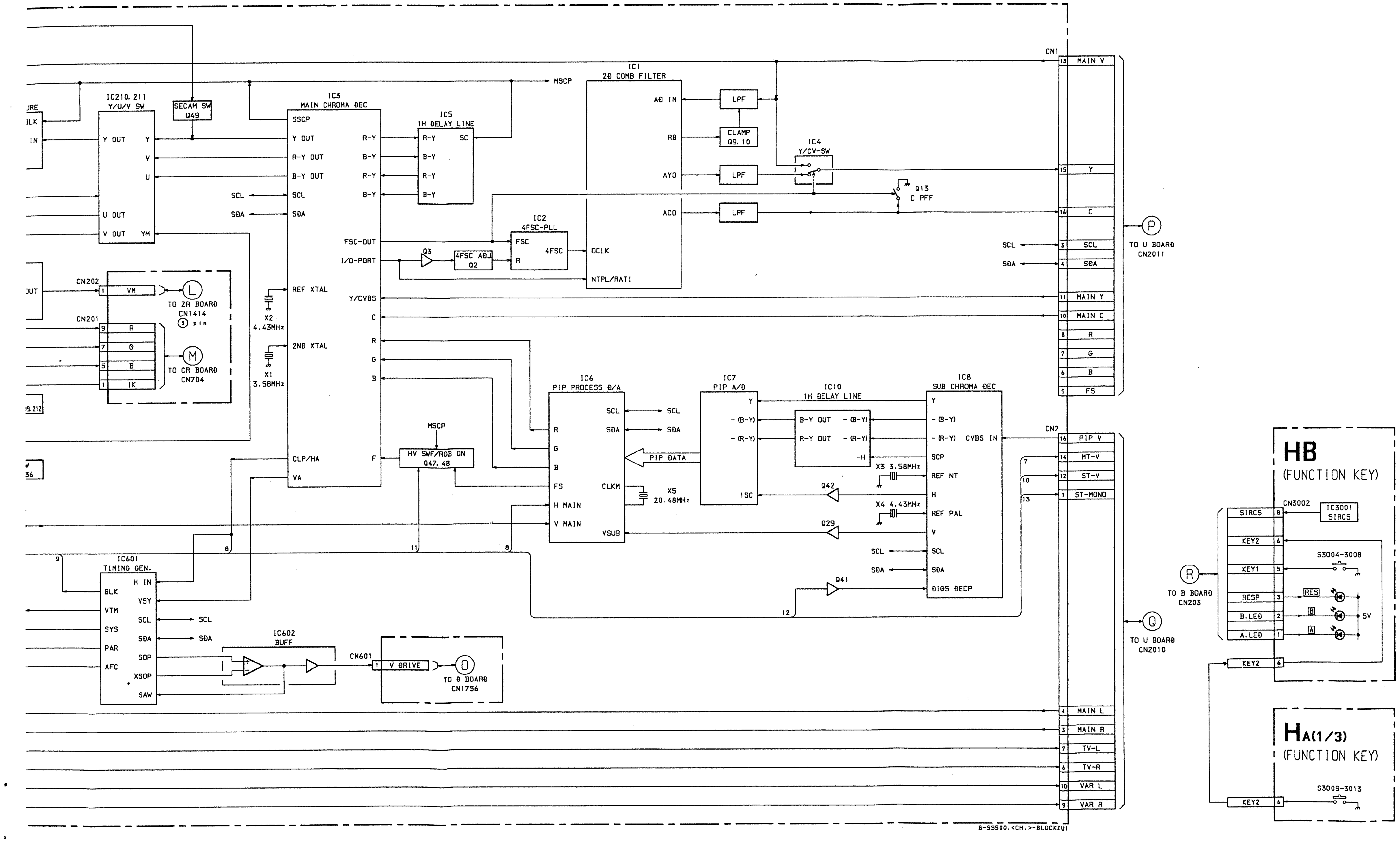

J3001
VIDEO 3
S-VIDEO
VIDEO
L
R
CN3001
FR Y
FR C
FR V
FR L
FR R
CN2003
HA (3/3)
IC2002
AV-SWITCH
FRONT IN (AV3)
COMB IN
C
Y
SCL
SDA
MONI OUT
V
Y
C
L
R
TV IN
PIP V
V OUT2
L OUT2
R OUT2
CN2011
FS
B
G
R
C
Y
SCL
SDA
MAIN V
MAIN Y
MAIN C
TO B BOARD
CN1
P
CN2010
MAIN L
MAIN R
MT-V
TV-L
TV-R
PIP V
VAR L
VAR R
ST-V
ST-MONO
TO B BOARD
CN2
Q
J2001
AV-1 IN
S-VIDEO
AV-1 IN
AV-2 IN
S-VIDEO
VIDEO
AV-2 IN
SUB TV IN
EV
LEV
REV
J2002 (2/2)
MONITOR OUT
S-VIDEO
J2002 (1/2)
AV-3 IN
S-VIDEO
J2003
VARIABLE OUT
SP (R)
SP (L)
CN2004
SP R
SP L
TB2001
CENTER SPEAKER
CN2008
SP L
SP R
U(EXT INPUT, MONITOR OUT, AV SWITCH, SPEAKER OUT)
IC3201
AUDIO AMP
MUTE
CN3203
SP L
SP R
MUTE
Q3201, 3210
RELAY DRIVE
Q3204, 3205
Q3207-3209
MUTE
Q3206
CN3201
L
R
MUTE
SP MUTE
VAR MUTE
TO
A (2/2) (AUDIO AMP)

BLOCK DIAGRAM (2)

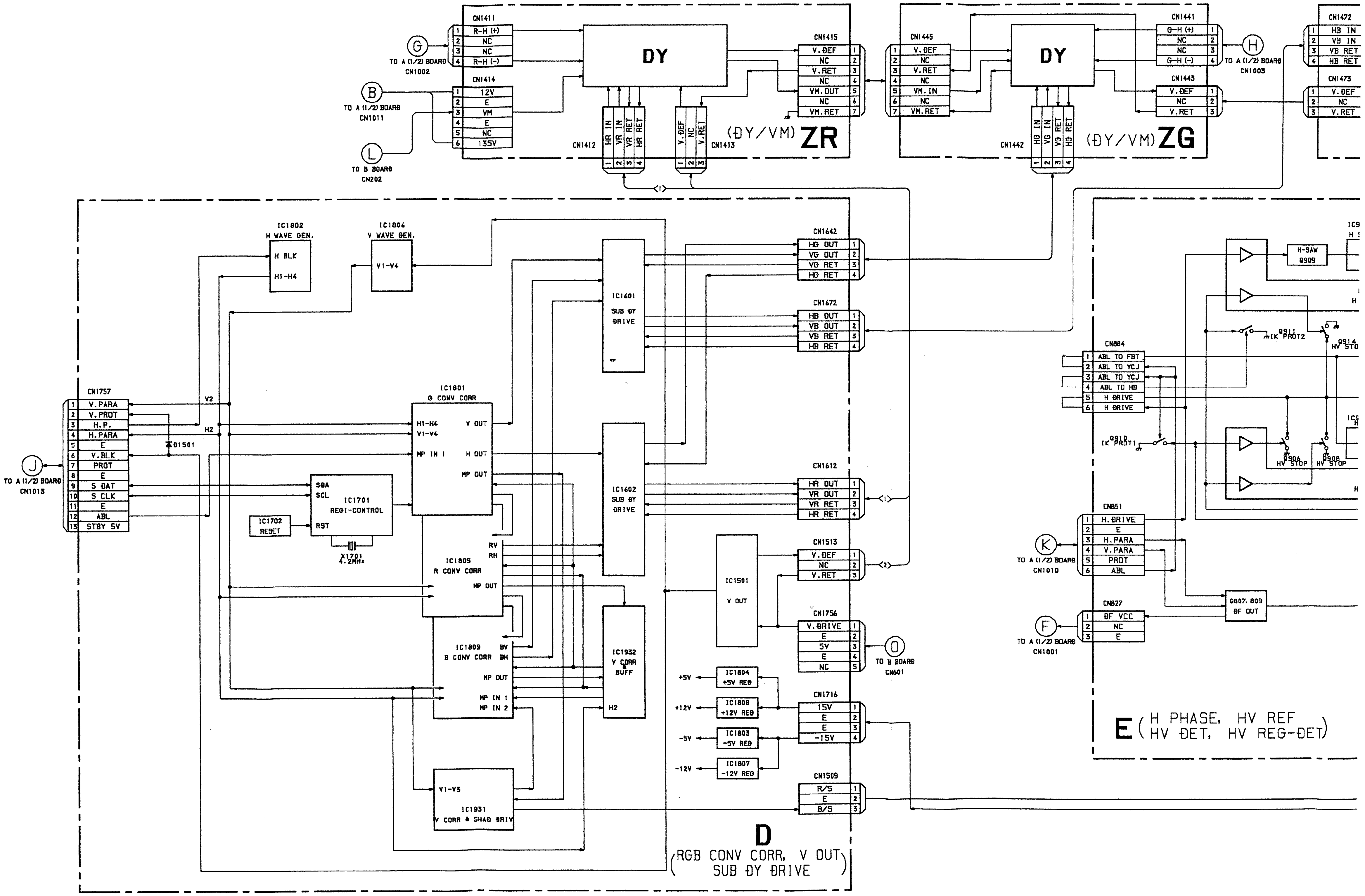


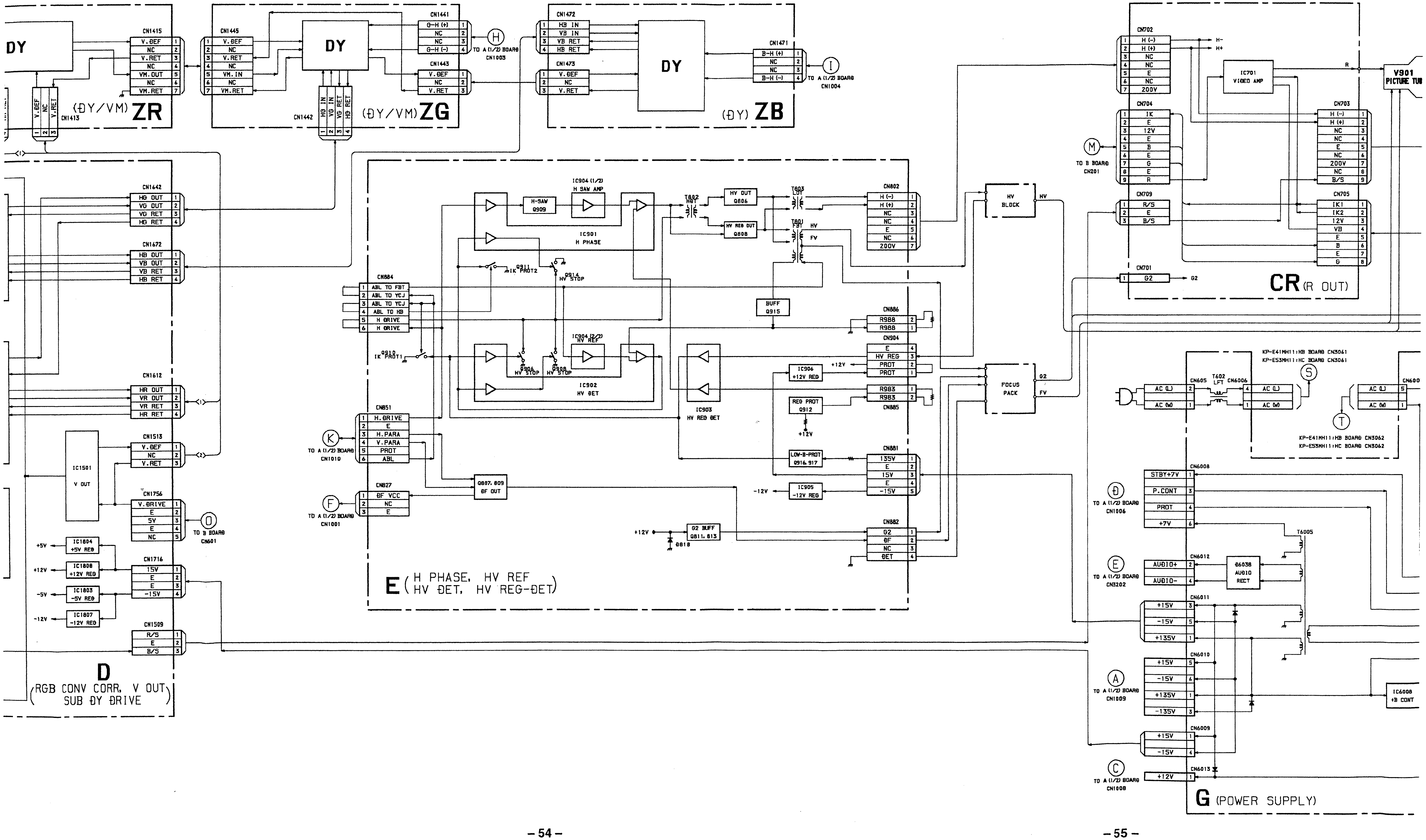
A (1/2) (TUNER, H DRIVE, H OUT)
TU1003
SCL
SDA
AGC
IF
IF1003
IF IN
TSW1
TSW0
AFT
DE-EN
DET-OUT
RF AGC
TU1002
IF1002
BUFF. PROT Q1020, 1021, 1023
VIDEO
SIF
MPX OUT
TSW1
TSW0
CN1009
+135V
-135V
+15V
-15V
IC1003 12V REG
IC1005 -12V REG
TO G BOARD CN6010
CN1011
+12V
TO ZR BOARD CN1414
CN1008
IC1004 9V REG
+9V
TO G BOARD CN6013
CN1006
STBY +7V
IC1006 5V REG
STBY 5V
IC1001 5V REG
D+5V
IC1002 5V REG
A+5V
P.CONT
PROT
TO G BOARD CN6008
CN3202
AUDIO+
AUDIO-
+18V
-18V
TO G BOARD CN6012
PIN AMP, PIN OUT Q1006, 1007, 1009, 1010
INV. BUFF Q1004, 1005, 1008
H OUT Q1001
T1001
H DRIVE Q1002
H PROTECT Q1011, 1014
V PROTECT Q1012, 1014
D1001 CLAMP
-15V
CN1016
M.AGC
S.AGC
ST.V
AT.MONO
MT.V
AM MONO
M AFT
P CONT
S.SYS2
S.SYS1
S.AFT
MSYS2
M.SYS1
E-W
H DRIVE
H BLK
V BLK
ABL
SP.SW
NC
CN1001
CN1002
CN1003
CN1004
CN1010
CN1012
BF.VCC
R.H(+)
R.H(-)
G.H(+)
G.H(-)
B.H(+)
B.H(-)
PROT
V PROT
H.P
SCLK
SDAT
V BLK
ABL
V PARA
H PARA
H DRIVE
SW
TO E BOARD CN827
TO ZR BOARD CN1411
TO ZG BOARD CN1441
TO ZB BOARD CN1471
TO D BOARD CN1757
TO E BOARD CN851
TO RF SPLITTER
CHECK
CN3
B INT
IC205 RESET
IC204 N.V.M
SCLO
SDAO
IC207 SYSTEM CONTROL
RESET
RMC
KEY2
KEY1
/RESP
/B
/A
AGC ATT
EXTAL
XTAL
X202 8MHz
Q279 AGC MUTE
SCL1
SDA1
MT.HSYNC
H SYNC SEP Q277
SECAM
MHSYNC
MVSYNC
R
G
B
YS
SC MUTE
M.AFT
P.CONT
RGB OFF
YM
I
MUL-P
PIP-RST
S.HSYNC
SYNC SEP Q276
SPEAKER
A MUTE
TV MUTE
P MUTE
SP.SW
CN203
SIRCS
KEY2
KEY1
RESP
B.LED
A.LED
TO HB BOARD CN3002
IC201 TEXT PROCESS
V1
XTAL1
XTAL2
X201 20.25MHz
RO
GO
BO
FB OUT
H SYNC
V SYNC
IC214 COUNTER
ENP
RCO
SW Q278, 280
LOAD
CLK
C
MUTE Q261, 267, 269, 273-275, 286, 287
IC212 AUDIO PROCESS
IC213 AMP
RESET
SDA
SCL
ANA IN1, 2
MONO IN
DAC M L
DAC MR
SC1.INL
SC1.INR
SC1.OUTL
SC1.OUTR
X203 18.4MHz
XTAL
CN206
SP MUTE
MUTE
VAR MUTE
L
R
TO A BOARD (2/2) CN3201
B
SYSTEM CONTROL
TEXT PROCESS
AUDIO PROCESS
CHROMA DECODER
RGB MATYRIX
IC209 HP AMP
DAC L
DAC R
CN205
HP L
MUTE
HP R
CN3005
J3031 HEADPHONES
HA(2/3)
A
B
C
D
E
F
G
H
I
J
K
N
R

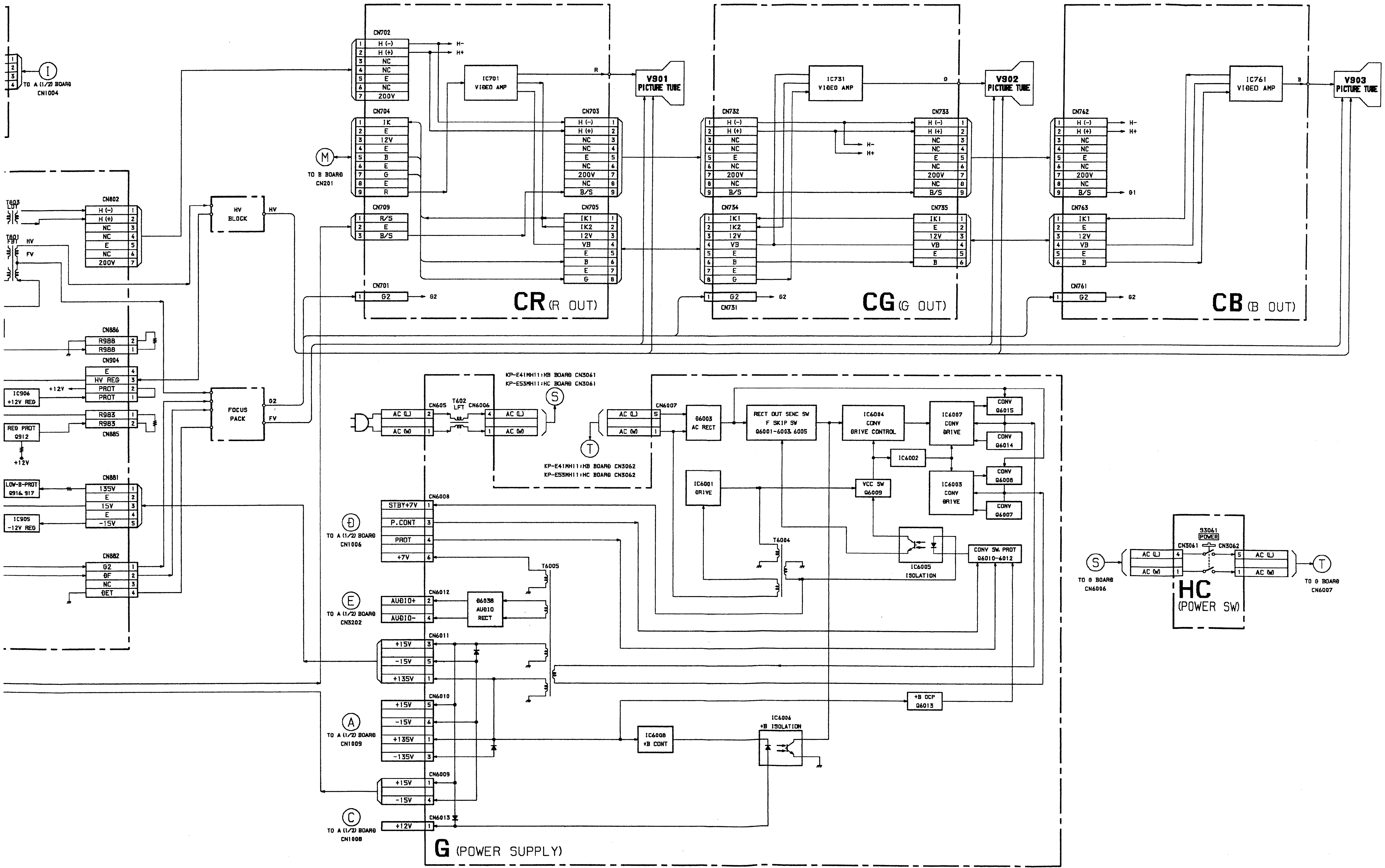

IC207
SYSTEM CONTROL
RESET
B INT
SCLO
SDAO
AGC ATT
SCL1
SDA1
MT.HSYNC
M.AFT
P.CONT
MUL-P
PIP-RST
RMC
KEY2
KEY1
/RESP
/B
/A
EXTAL
XTAL
SECAM
MHSYNC
MVSYNC
R
G
B
YS
SC MUTE
RGB OFF
YM
I
S.HSYNC
X202
8MHz
CN203
SIRCS
KEY2
KEY1
RESP
B.LED
A.LED
R
TO HB BOARD
CN3002
SYNC SEP
Q276
S.SYS2
S.SYS1
S.AFT
MSYS2
M.SYS1
RESET
SP.SW
SPEAKER
A MUTE
TV MUTE
P MUTE
MUTE
Q261, 267, 269, 273-275, 286, 287
IC212
AUDIO PROCESS
RESET
SDA
SCL
ANA IN1,2
MONO IN
XTAL
XTAL
DAC M L
DAC MR
SC1.INL
SC1.INR
SC1.OUTL
SC1.OUTR
IC213
AMP
IC209
HP AMP
DAC L
DAC R
CN205
HP L
MUTE
HP R
CN3005
J3031
HEADPHONES
HA(2/3)
CN206
SP MUTE
MUTE
VAR MUTE
L
R
N
TO A BOARD
(2/2) CN3201
IC201
TEXT PROCESS
V1
SCL
SDA
XTAL1
XTAL2
RESET
H SYNC
RO
GO
BO
FB OUT
V SYNC
X201
20.25MHz
IC203
MEMORY
IC214
COUNTER
ENP
RCO
CLK
LOAD
C
SW
Q278, 280
SW
Q236
IC206
RGB MATRIX
SC
Y
R1
G1
B1
FSW1
SCL
SDA
R2
G2
B2
FSW2
BCL
-(B-Y)
-(R-Y)
RO
GO
BO
CI
IC208
DYNAMIC PICTURE
C BLK
Y OUT
Y IN
BG
IC202
VM SW
V IN
SW1
V OUT
SW2
CN202
VM
L
TO ZR BOARD
CN1414
① pin
CN201
R
G
B
IK
M
TO CR BOARD
CN704
RGB OFF
Q202, 203, 206, 207, 209, 212
IC210, 211
Y/U/V SW
Y OUT
Y
V
U
U OUT
V OUT
YM
SECAM SW
Q49
IC3
MAIN CHROMA DEC
SSCP
Y OUT
R-Y OUT
B-Y OUT
SCL
SDA
REF XTAL
2ND XTAL
CLP/HA
VA
R-Y
B-Y
R-Y
B-Y
FSC-OUT
I/O-PORT
Y/CVBS
C
R
G
B
F
X2
4.43MHz
X1
3.58MHz
IC5
1H DELAY LINE
R-Y
B-Y
R-Y
B-Y
SC
IC2
4FSC-PLL
FSC
R
4FSC
Q3
4FSC ADJ
Q2
MSCP
IC1
2D COMB FILTER
AD IN
RB
AYO
ACO
DCLK
NTPL/RATI
LPF
CLAMP
Q9, 10
LPF
LPF
IC4
Y/CV-SW
C
MSCP
HV SWF/RGB ON
Q47, 48
IC6
PIP PROCESS D/A
R
G
B
FS
H MAIN
V MAIN
SCL
SDA
CLKM
VSUB
PIP DATA
X5
20.48MHz
IC7
PIP A/D
Y
-(B-Y)
-(R-Y)
1SC
IC10
1H DELAY LINE
B-Y OUT
R-Y OUT
-(B-Y)
-(R-Y)
-H
X3 3.58MH
X4 4.43MH
Q42
Q29
Q41
SCL
SDA
IC603
JUNGLE
FBP IN
HS IN
H DRIVE
PHASE1
IC601
TIMING GEN.
H IN
BLK
VTM
SYS
PAR
AFC
VSY
SCL
SDA
SOP
XSOP
SAW
IC602
BUFF
CN601
V DRIVE
O
TO D BOARD
CN1756


IC210, 211
Y/U/V SW
Y OUT
U OUT
V OUT
YM
SECAM SW
Q49
IC3
MAIN CHROMA DEC
SSCP
Y OUT
R-Y OUT
B-Y OUT
SCL
SDA
FSC-OUT
I/O-PORT
REF XTAL
2ND XTAL
Y/CVBS
CLP/HA
VA
X2
4.43MHz
X1
3.58MHz
IC5
1H DELAY LINE
IC2
4FSC-PLL
4FSC ADJ
Q2
Q3
MSCP
IC1
2D COMB FILTER
AD IN
RB
AYO
ACO
DCLK
NTPL/RATI
LPF
CLAMP
Q9, 10
IC4
Y/CV-SW
Q13
C PFF
CN1
MAIN V
MAIN Y
MAIN C
FS
TO U BOARD
CN2011
CN202
CN201
VM
TO ZR BOARD
CN1414
③ pin
TO CR BOARD
CN704
IK
IC6
PIP PROCESS D/A
H MAIN
V MAIN
CLKM
VSUB
X5
20.48MHz
PIP DATA
HV SWF/RGB ON
Q47, 48
IC7
PIP A/D
IC10
1H DELAY LINE
B-Y OUT
R-Y OUT
IC8
SUB CHROMA DEC
CVBS IN
REF NT
REF PAL
X3 3.58MHz
X4 4.43MHz
DIOS DECP
Q42
Q29
Q41
CN2
PIP V
MT-V
ST-V
ST-MONO
MAIN L
MAIN R
TV-L
TV-R
VAR L
VAR R
TO U BOARD
CN2010
IC601
TIMING GEN.
BLK
VTM
SYS
PAR
AFC
H IN
VSY
SOP
XSOP
SAW
IC602
BUFF
CN601
V DRIVE
TO D BOARD
CN1756
HB
(FUNCTION KEY)
CN3002
IC3001
SIRCS
KEY2
KEY1
RESP
B.LED
A.LED
S3004-3008
RES
5V
TO B BOARD
CN203
HA(1/3)
(FUNCTION KEY)
S3009-3013
B-SS500.<CH.>-BLOCKZU1

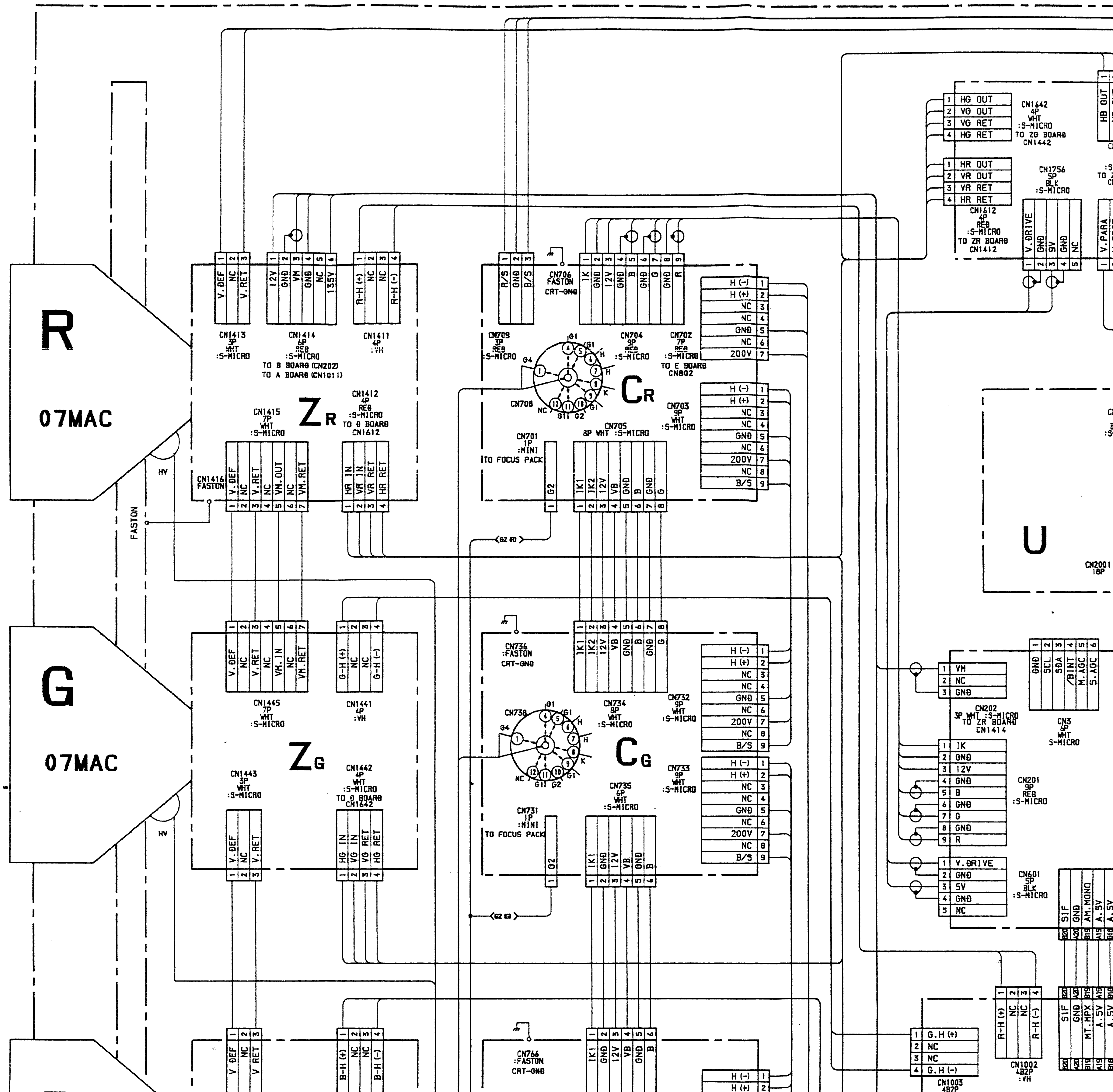
BLOCK DIAGRAM (3)

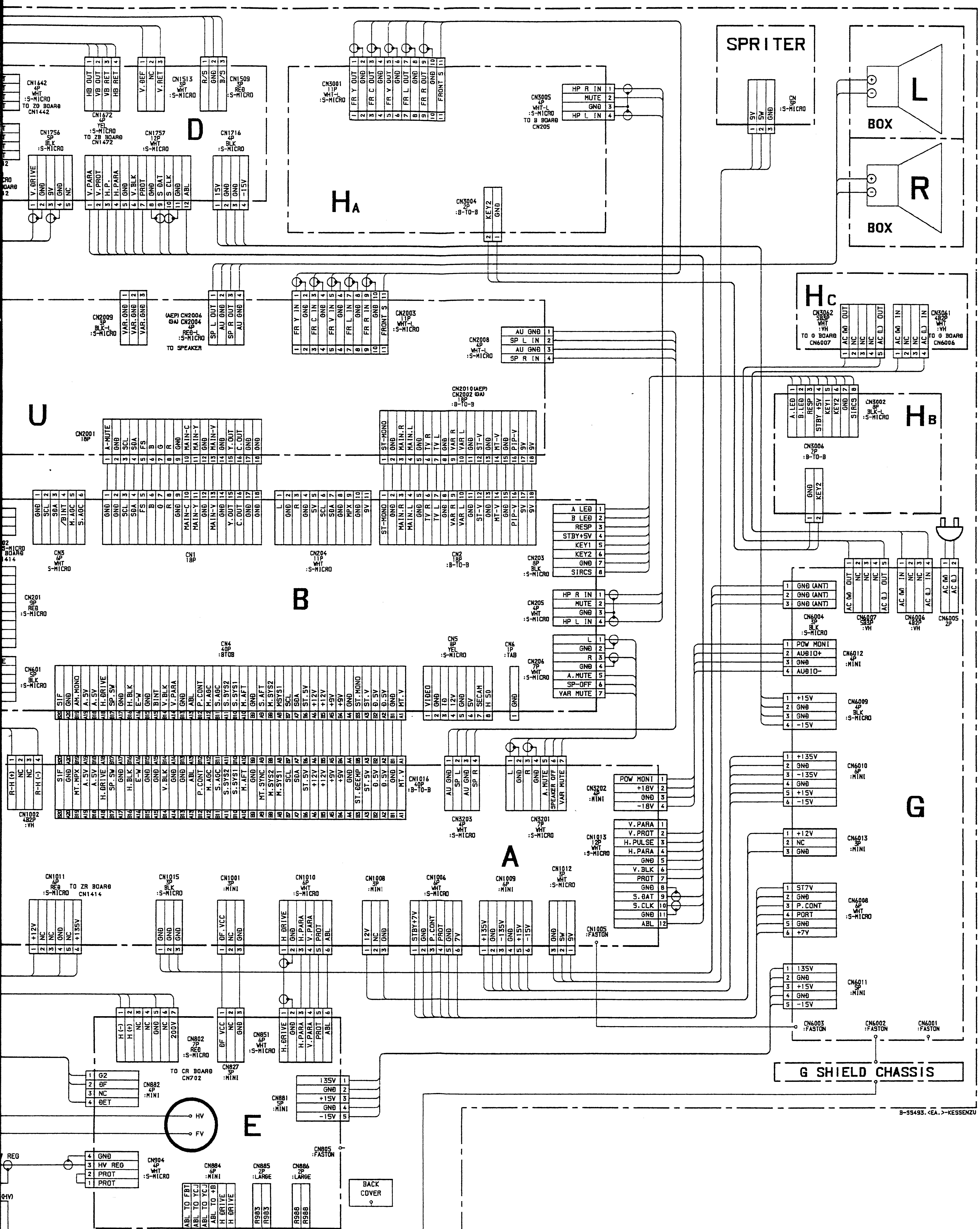

CN1411
R-H (+)
NC
NC
R-H (-)
G
TO A (1/2) BOARD CN1002
CN1414
12V
E
VM
E
NC
135V
B
TO A (1/2) BOARD CN1011
L
TO B BOARD CN202
DY
CN1412
HR IN
VR IN
VR RET
HR RET
V.DEF
NC
V.RET
CN1413
CN1415
V.DEF
NC
V.RET
NC
VM.OUT
NC
VM.RET
(DY/VM) ZR
CN1445
V.DEF
NC
V.RET
NC
VM.IN
NC
VM.RET
DY
CN1442
HG IN
VG IN
VG RET
HG RET
(DY/VM) ZG
CN1441
G-H (+)
NC
NC
G-H (-)
H
TO A (1/2) BOARD CN1003
CN1443
V.DEF
NC
V.RET
CN1472
HB IN
VB IN
VB RET
HB RET
CN1473
V.DEF
NC
V.RET
IC1802
H WAVE GEN.
H BLK
H1-H4
IC1806
V WAVE GEN.
V1-V4
IC1601
SUB DY DRIVE
CN1642
HG OUT
VG OUT
VG RET
HG RET
CN1672
HB OUT
VB OUT
VB RET
HB RET
CN1757
V.PARA
V.PROT
H.P.
H.PARA
E
V.BLK
PROT
E
S DAT
S CLK
E
ABL
STBY 5V
J
TO A (1/2) BOARD CN1013
V2
H2
D1501
IC1801
G CONV CORR
H1-H4
V1-V4
MP IN 1
V OUT
H OUT
MP OUT
SDA
SCL
RST
IC1701
REG1-CONTROL
IC1702
RESET
X1701
4.2MHz
IC1805
R CONV CORR
RV
RH
MP OUT
IC1602
SUB DY DRIVE
CN1612
HR OUT
VR OUT
VR RET
HR RET
IC1501
V OUT
CN1513
V.DEF
NC
V.RET
CN1756
V.DRIVE
E
5V
E
NC
O
TO B BOARD CN601
IC1809
B CONV CORR
BV
BH
MP OUT
MP IN 1
MP IN 2
IC1932
V CORR BUFF
H2
+5V
IC1804
+5V REG
+12V
IC1808
+12V REG
-5V
IC1803
-5V REG
-12V
IC1807
-12V REG
CN1716
15V
E
E
-15V
CN1509
R/S
E
B/S
IC1931
V1-V3
V CORR & SHAD DRIV
D
(RGB CONV CORR, V OUT SUB DY DRIVE)
(1)
(2)
H-SAW
Q909
Q911
IK PROT2
Q914
HV STO
CN884
ABL TO FBT
ABL TO YCJ
ABL TO YCJ
ABL TO HB
H DRIVE
H DRIVE
Q910
IK PROT1
Q906
HV STOP
Q908
HV STOP
CN851
H.DRIVE
E
H.PARA
V.PARA
PROT
ABL
K
TO A (1/2) BOARD CN1010
CN827
DF VCC
NC
E
F
TO A (1/2) BOARD CN1001
Q807, 809
DF OUT
E (H PHASE, HV REF HV DET, HV REG-DET)

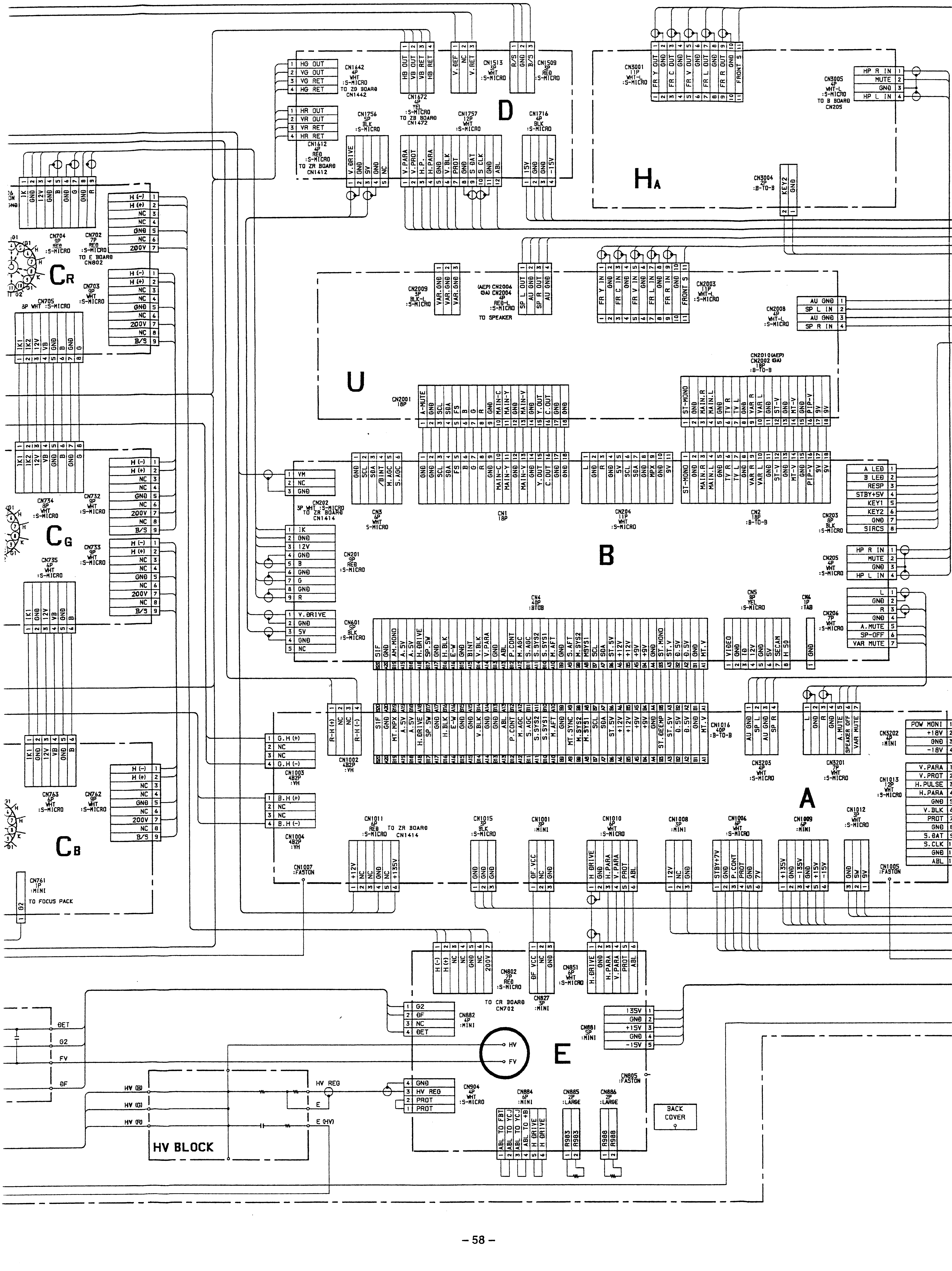

DY
CN1415
V.DEF
NC
V.RET
VM.OUT
VM.RET
CN1413
(DY/VM) ZR
CN1445
V.DEF
V.RET
VM.IN
VM.RET
CN1442
HG IN
VG IN
VG RET
HG RET
(DY/VM) ZG
CN1441
G-H (+)
G-H (-)
CN1443
H
TO A (1/2) BOARD CN1003
CN1472
HB IN
VB IN
VB RET
HB RET
CN1473
(DY) ZB
CN1471
B-H (+)
B-H (-)
I
TO A (1/2) BOARD CN1004
CN1642
HG OUT
VG OUT
VG RET
HG RET
CN1672
HB OUT
VB OUT
VB RET
HB RET
CN1612
HR OUT
VR OUT
VR RET
HR RET
CN1513
IC1501 V OUT
CN1756
V.DRIVE
E
5V
O
TO B BOARD CN601
IC1804 +5V REG
IC1808 +12V REG
IC1803 -5V REG
IC1807 -12V REG
+5V
+12V
-5V
-12V
CN1716
15V
-15V
CN1509
R/S
B/S
D
(RGB CONV CORR, V OUT SUB DY DRIVE)
IC904 (1/2) H SAW AMP
H-SAW Q909
IC901 H PHASE
T802 HDT
HV OUT Q806
HV REG OUT Q808
T803 LOT
T801 FBT
HV
FV
CN802
H (-)
H (+)
200V
CN884
ABL TO FBT
ABL TO YCJ
ABL TO HD
H DRIVE
Q911 IK PROT2
Q914 HV STOP
BUFF Q915
CN886
R988
CN904
HV REG
PROT
Q910 IK PROT1
Q906 HV STOP
Q908 HV STOP
IC904 (2/2) HV REF
IC902 HV DET
IC903 HV REG DET
IC906 +12V REG
+12V
REG PROT Q912
CN885
R983
CN851
H.DRIVE
H.PARA
V.PARA
PROT
ABL
K
TO A (1/2) BOARD CN1010
LOW-B-PROT Q916, 917
CN881
135V
15V
-15V
Q807, 809 DF OUT
CN827
DF VCC
F
TO A (1/2) BOARD CN1001
IC905 -12V REG
-12V
G2 BUFF Q811, 813
Q818
CN882
G2
DF
DET
E (H PHASE, HV REF HV DET, HV REG-DET)
HV BLOCK
FOCUS PACK
G2
FV
CN702
H-
H+
200V
IC701 VIDEO AMP
R
V901 PICTURE TU
CN704
IK
12V
B
G
M
TO B BOARD CN201
CN709
R/S
B/S
CN703
CN705
IK1
IK2
VB
CN701
G2
CR (R OUT)
KP-E41MH11:HB BOARD CN3061
KP-E53MH11:HC BOARD CN3061
S
CN605
T602 LFT
CN6006
AC (L)
AC (W)
CN600
T
KP-E41MH11:HB BOARD CN3062
KP-E53MH11:HC BOARD CN3062
CN6008
STBY+7V
P.CONT
PROT
+7V
Đ
TO A (1/2) BOARD CN1006
T6005
CN6012
AUDIO+
AUDIO-
D6038 AUDIO RECT
E
TO A (1/2) BOARD CN3202
CN6011
+15V
-15V
+135V
CN6010
-135V
A
TO A (1/2) BOARD CN1009
IC6008 +B CONT
CN6009
CN6013
+12V
C
TO A (1/2) BOARD CN1008
G (POWER SUPPLY)


CR (R OUT)
CG (G OUT)
CB (B OUT)
G (POWER SUPPLY)
HC (POWER SW)
CN702
H (−)
H (+)
NC
E
200V
H−
H+
IC701 VIDEO AMP
R
V901 PICTURE TUBE
CN704
IK
12V
B
G
CN703
B/S
CN709
R/S
CN705
IK1
IK2
VB
CN701
G2
TO A (1/2) BOARD CN1004
TO B BOARD CN201
IC731 VIDEO AMP
V902 PICTURE TUBE
CN732
CN733
CN734
CN735
CN731
IC761 VIDEO AMP
V903 PICTURE TUBE
CN762
CN763
CN761
G1
T803 LOT
T801 FBT
HV
FV
CN802
HV BLOCK
CN886
R988
CN904
HV REG
PROT
+12V
IC906 +12V REG
R983
CN885
REG PROT Q912
FOCUS PACK
CN881
LOW-B-PROT Q916, 917
135V
15V
−15V
IC905 −12V REG
CN882
DF
DET
KP-E41MH11:HB BOARD CN3061
KP-E53MH11:HC BOARD CN3061
CN605
T602 LFT
CN6006
AC (L)
AC (W)
CN6007
KP-E41MH11:HB BOARD CN3062
KP-E53MH11:HC BOARD CN3062
D6003 AC RECT
RECT OUT SENC SW
F SKIP SW
Q6001-6003, 6005
IC6004 CONV DRIVE CONTROL
IC6007 CONV DRIVE
CONV Q6015
CONV Q6014
IC6002
CONV Q6008
CONV Q6007
IC6003 CONV DRIVE
IC6001 DRIVE
VCC SW Q6009
T6004
IC6005 ISOLATION
CONV SW. PROT Q6010-6012
CN6008
STBY+7V
P.CONT
+7V
TO A (1/2) BOARD CN1006
T6005
CN6012
AUDIO+
AUDIO−
D6038 AUDIO RECT
TO A (1/2) BOARD CN3202
CN6011
+15V
+135V
CN6010
−135V
TO A (1/2) BOARD CN1009
+B OCP Q6013
IC6006 +B ISOLATION
IC6008 +B CONT
CN6009
CN6013
+12V
TO A (1/2) BOARD CN1008
S3061 POWER
CN3061
CN3062
TO G BOARD CN6006
TO G BOARD CN6007
I
M
S
T
D
E
A
C
B-99500.<CH.>-BLOCKZU3

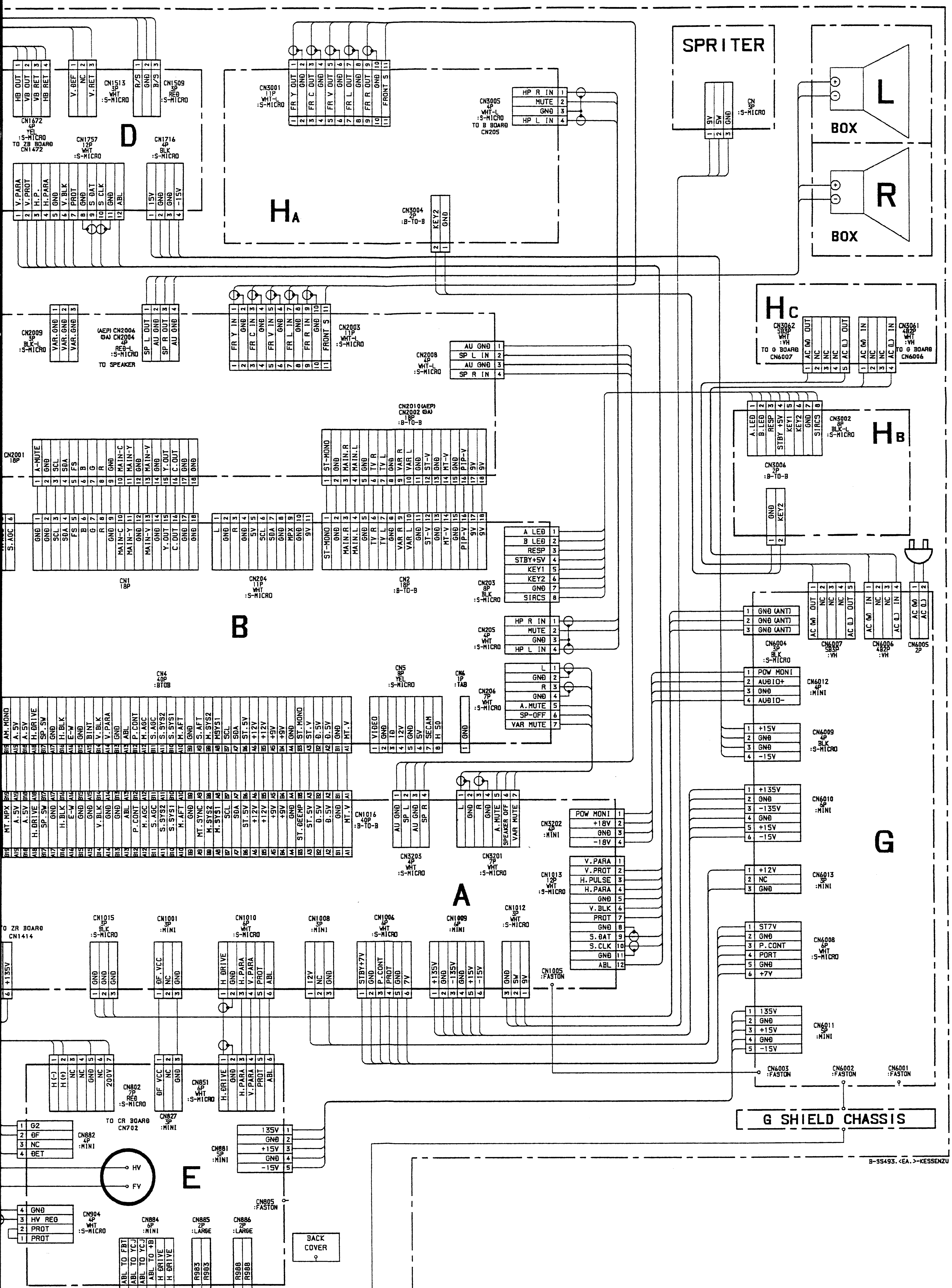
6-2. FRAME SCHEMATIC DIAGRAM


R
07MAC
G
07MAC
B
07MAC
CRT
CHASSIS
FASTON
HV
Z R
Z G
Z B
C R
C G
C B
U
CN1413 3P WHT :S-MICRO
CN1414 6P RED :S-MICRO TO B BOARD (CN202) TO A BOARD (CN1011)
CN1411 4P :VH
CN1412 4P RED :S-MICRO TO Q BOARD CN1612
CN1415 7P WHT :S-MICRO
CN1416 FASTON
CN1445 7P WHT :S-MICRO
CN1441 4P :VH
CN1443 3P WHT :S-MICRO
CN1442 4P WHT :S-MICRO TO Q BOARD CN1642
CN1473 3P WHT :S-MICRO
CN1471 4P :VH
CN1472 4P YEL :S-MICRO TO Q BOARD CN1672
CN706 FASTON CRT-GND
CN709 3P RED :S-MICRO
CN704 9P RED :S-MICRO
CN702 7P RED :S-MICRO TO E BOARD CN802
CN703 9P WHT :S-MICRO
CN705 8P WHT :S-MICRO
CN708
CN701 1P :MINI TO FOCUS PACK
CN736 :FASTON CRT-GND
CN734 8P WHT :S-MICRO
CN732 9P WHT :S-MICRO
CN733 9P WHT :S-MICRO
CN735 6P WHT :S-MICRO
CN738
CN731 1P :MINI TO FOCUS PACK
CN766 :FASTON CRT-GND
CN763 6P WHT :S-MICRO
CN762 9P WHT :S-MICRO
CN768
CN761 1P :MINI TO FOCUS PACK
CN1642 4P WHT :S-MICRO TO ZG BOARD CN1442
CN1756 5P BLK :S-MICRO
CN1612 4P RED :S-MICRO TO ZR BOARD CN1412
CN202 3P WHT :S-MICRO TO ZR BOARD CN1414
CN3 6P WHT S-MICRO
CN201 9P WHT :S-MICRO
CN601 5P BLK :S-MICRO
CN1003 4B2P :VH
CN1002 4B2P :VH
CN1004 4B2P :VH
CN1011 6P RED :S-MICRO
CN1007 :FASTON
CN2001 18P
V.DEF
V.RET
12V
GND
VM
135V
R-H (+)
R-H (-)
G-H (+)
G-H (-)
B-H (+)
B-H (-)
VM.OUT
VM.RET
VM.IN
HR IN
VR IN
VR RET
HR RET
HG IN
VG IN
VG RET
HG RET
HB IN
VB IN
VB RET
HB RET
R/S
B/S
IK
IK1
IK2
VB
H (-)
H (+)
200V
G2
HG OUT
VG OUT
HR OUT
VR OUT
HB OUT
V.DRIVE
9V
V.PARA
SCL
SDA
/BINT
M.AGC
S.AGC
5V
G.H (+)
G.H (-)
B.H (+)
B.H (-)
+12V
+135V
SIF
AM.MONO
A.5V
MT.MPX
(G2 R)
(G2 G)
(G2 B)
G2 (R)
G2 (G)
G2 (B)
FOCUS
PACK
GET
FV
GF
FV (R)
FV (G)
FV (B)
HV (B)
HV (G)
HV (R)
HV BLOCK
HV REG
E
E (HV)

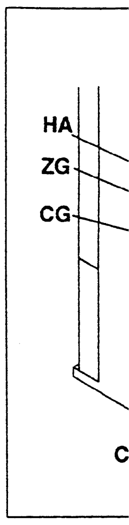

SPRITER
L
BOX
R
BOX
D
HA
HB
HC
U
B
A
G
E
G SHIELD CHASSIS
BACK COVER
HV
FV
CN1642 4P WHT :S-MICRO TO ZG BOARD CN1442
CN1672 6P YEL :S-MICRO TO ZB BOARD CN1472
CN1513 3P WHT :S-MICRO
CN1509 3P RED :S-MICRO
CN1756 5P BLK :S-MICRO
CN1757 12P WHT :S-MICRO
CN1716 4P BLK :S-MICRO
CN3001 11P WHT-L :S-MICRO
CN3005 4P WHT-L :S-MICRO TO B BOARD CN205
CN3004 2P :B-TO-B
CN 3P :S-MICRO
CN2009 3P BLK-L :S-MICRO
(AEP) CN2006 (GA) CN2004 4P RED-L :S-MICRO TO SPEAKER
CN2003 11P WHT-L :S-MICRO
CN2008 4P WHT-L :S-MICRO
CN2010(AEP) CN2002 (GA) 18P :B-TO-B
CN2001 18P
CN3062 5B3P WHT :VH TO G BOARD CN6007
CN3061 4B2P WHT :VH TO G BOARD CN6006
CN3002 8P BLK-L :S-MICRO
CN3006 2P :B-TO-B
CN3 6P WHT S-MICRO
CN1 18P
CN204 11P WHT :S-MICRO
CN2 18P :B-TO-B
CN203 8P BLK :S-MICRO
CN205 4P WHT :S-MICRO
CN206 7P WHT :S-MICRO
CN201 9P RED :S-MICRO
CN601 5P BLK :S-MICRO
CN4 40P :BTOB
CN5 8P YEL :S-MICRO
CN6 1P :TAB
CN1002 4B2P :VH
CN1016 40P :B-TO-B
CN3203 4P WHT :S-MICRO
CN3201 7P WHT :S-MICRO
CN3202 4P :MINI
CN1013 12P WHT :S-MICRO
CN1011 6P RED TO ZR BOARD :S-MICRO CN1414
CN1015 3P BLK :S-MICRO
CN1001 3P :MINI
CN1010 6P WHT :S-MICRO
CN1008 3P :MINI
CN1006 6P WHT :S-MICRO
CN1009 6P :MINI
CN1012 3P WHT :S-MICRO
CN1005 :FASTON
CN6004 3P BLK :S-MICRO
CN6007 5B3P :VH
CN6006 4B2P :VH
CN6005 2P
CN6012 4P :MINI
CN6009 4P BLK :S-MICRO
CN6010 6P :MINI
CN6013 3P :MINI
CN6008 6P WHT :S-MICRO
CN6011 5P :MINI
CN6003 :FASTON
CN6002 :FASTON
CN6001 :FASTON
CN802 7P RED :S-MICRO TO CR BOARD CN702
CN827 3P :MINI
CN851 6P WHT :S-MICRO
CN882 4P :MINI
CN881 5P :MINI
CN904 4P WHT :S-MICRO
CN884 6P :MINI
CN885 2P :LARGE
CN886 2P :LARGE
CN805 :FASTON
HB OUT
VB OUT
VB RET
HB RET
V.DEF
NC
V.RET
R/S
GND
B/S
V.DRIVE
9V
V.PARA
V.PROT
H.P.
H.PARA
H.DRIVE
V.BLK
PROT
S.DAT
S.CLK
ABL
15V
-15V
FR Y OUT
FR C OUT
FR V OUT
FR L OUT
FR R OUT
FRONT S
HP R IN
MUTE
HP L IN
KEY2
5W
VAR.GND
SP L OUT
AU GND
SP R OUT
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
SP L IN
SP R IN
AC (W) OUT
AC (L) OUT
AC (W) IN
AC (L) IN
A.LED
B.LED
RESP
STBY +5V
KEY1
SIRCS
A-MUTE
SCL
SDA
FS
B
G
R
MAIN-C
MAIN-Y
MAIN-V
Y.OUT
C.OUT
ST-MONO
MAIN.R
MAIN.L
TV R
TV L
VAR R
VAR L
ST-V
MT-V
PIP-V
/BINT
M.AGC
S.AGC
L
5V
MPX
A.MUTE
SP-OFF
VAR MUTE
GND (ANT)
POW MONI
AUDIO+
AUDIO-
+15V
+135V
-135V
+12V
ST7V
P.CONT
PORT
+7V
135V
S1F
AM.MONO
A.5V
SP.SW
H.BLK
E-W
BINT
P.CONT
S.SYS2
S.SYS1
M.AFT
M.SYS2
M.SYS1
ST.5V
+9V
ST.V
D.5V
MT.V
MT.MPX
MT.SYNC
ST.DEEMP
VIDEO
IO
12V
SECAM
H 50
R-H(+)
R-H(-)
SPEAKER OFF
+18V
-18V
H.PULSE
DF.VCC
STBY+7V
H(-)
H(+)
200V
G2
DF
DET
HV REG
ABL TO FBT
ABL TO YCJ
ABL TO +B
R983
R988
B-SS493.<EA.>-KESSENZU



D
HA
U
B
A
E
CR
CG
CB
HV BLOCK
CN1642 4P WHT :S-MICRO TO ZG BOARD CN1442
HG OUT
VG OUT
VG RET
HG RET
CN1612 4P RED :S-MICRO TO ZR BOARD CN1412
HR OUT
VR OUT
VR RET
HR RET
CN1672 4P YEL :S-MICRO TO ZB BOARD CN1472
HB OUT
VB OUT
VB RET
HB RET
V.DEF
NC
V.RET
CN1513 3P WHT :S-MICRO
R/S
GND
B/S
CN1509 3P RED :S-MICRO
CN1756 5P BLK :S-MICRO
V.DRIVE
GND
9V
GND
NC
CN1757 12P WHT :S-MICRO
V.PARA
V.PROT
H.P.
H.PARA
GND
V.BLK
PROT
GND
S DAT
S CLK
GND
ABL
CN1716 4P BLK :S-MICRO
15V
GND
GND
-15V
CN3001 11P WHT-L :S-MICRO
FR Y OUT
GND
FR C OUT
GND
FR V OUT
GND
FR L OUT
GND
FR R OUT
GND
FRONT S
CN3005 4P WHT-L :S-MICRO TO B BOARD CN205
HP R IN
MUTE
GND
HP L IN
CN3004 2P :B-TO-B
KEY2
GND
CN704 9P RED :S-MICRO
IK
12V
GND
B
GND
G
GND
R
CN702 7P RED :S-MICRO TO E BOARD CN802
H(-)
H(+)
NC
NC
GND
NC
200V
CN703 9P WHT :S-MICRO
B/S
CN705 8P WHT :S-MICRO
IK1
IK2
12V
VB
GND
B
GND
G
CN2009 3P BLK-L :S-MICRO
VAR.GND
(AEP) CN2004 (GA) CN2004 4P RED-L :S-MICRO TO SPEAKER
SP L OUT
AU GND
SP R OUT
AU GND
CN2003 11P WHT-L :S-MICRO
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
FRONT S
CN2008 4P WHT-L :S-MICRO
AU GND
SP L IN
SP R IN
CN2010(AEP) CN2002 (GA) 18P :B-TO-B
ST-MONO
MAIN.R
MAIN.L
TV R
TV L
VAR R
VAR L
ST-V
MT-V
PIP-V
9V
CN2001 18P
A-MUTE
SCL
SDA
FS
MAIN-C
MAIN-Y
MAIN-V
Y.OUT
C.OUT
CN202 3P WHT :S-MICRO TO ZR BOARD CN1414
VM
NC
GND
CN3 6P WHT S-MICRO
/BINT
M.AGC
S.AGC
CN1 18P
CN204 11P WHT :S-MICRO
L
R
5V
MPX
9V
CN2 18P :B-TO-B
CN203 8P BLK :S-MICRO
A LED
B LED
RESP
STBY+5V
KEY1
KEY2
SIRCS
CN201 9P RED :S-MICRO
CN205 4P WHT :S-MICRO
CN734 8P WHT :S-MICRO
CN732 9P WHT :S-MICRO
CN733 9P WHT :S-MICRO
CN735 6P WHT :S-MICRO
CN601 5P BLK :S-MICRO
V.DRIVE
5V
CN4 40P :BTOB
S1F
AM.MONO
A.5V
H.DRIVE
SP.SW
H.BLK
E-W
BINT
V.BLK
V.PARA
ABL
P.CONT
M.AGC
S.AGC
S.SYS2
S.SYS1
M.AFT
S.AFT
M.SYS2
MSYS1
ST.5V
+12V
+9V
ST.MONO
ST.V
D.5V
MT.V
CN5 8P YEL :S-MICRO
VIDEO
IO
SECAM
H 50
CN6 1P :TAB
CN206 7P WHT :S-MICRO
A.MUTE
SP-OFF
VAR MUTE
R-H(+)
R-H(-)
CN1002 4B2P :VH
MT.MPX
MT.SYNC
ST.DEEMP
CN1016 40P :B-TO-B
AU GND
SP L
SP R
CN3203 4P WHT :S-MICRO
SPEAKER OFF
CN3201 7P WHT :S-MICRO
CN3202 4P :MINI
POW MONI
+18V
-18V
CN1013 12P WHT :S-MICRO
H.PULSE
S.DAT
S.CLK
CN1003 4B2P :VH
G.H(+)
G.H(-)
CN1004 4B2P :VH
B.H(+)
B.H(-)
CN763 6P WHT :S-MICRO
CN762 9P WHT :S-MICRO
CN761 1P :MINI TO FOCUS PACK
G2
CN1007 :FASTON
CN1011 6P RED :S-MICRO TO ZR BOARD CN1414
+12V
+135V
CN1015 3P BLK :S-MICRO
CN1001 3P :MINI
DF.VCC
CN1010 6P WHT :S-MICRO
CN1008 3P :MINI
CN1006 6P WHT :S-MICRO
STBY+7V
P.CONT
7V
CN1009 6P :MINI
-135V
+15V
-15V
CN1012 3P WHT :S-MICRO
SW
CN1005 :FASTON
CN802 7P RED :S-MICRO TO CR BOARD CN702
CN827 3P :MINI
CN851 6P WHT :S-MICRO
CN882 4P :MINI
DF
DET
CN881 5P :MINI
135V
CN805 :FASTON
HV
FV
HV (B)
HV (G)
HV (R)
HV REG
E
E (HV)
CN904 4P WHT :S-MICRO
PROT
CN884 6P :MINI
ABL TO FBT
ABL TO YCJ
ABL TO +B
CN885 2P :LARGE
R983
CN886 2P :LARGE
R988
BACK COVER


SPRITER
L
BOX
R
BOX
D
HA
HC
HB
B
A
G
E
G SHIELD CHASSIS
BACK COVER
HV
FV
CN3001 11P WHT-L :S-MICRO
CN3005 4P WHT-L :S-MICRO TO B BOARD CN205
CN3004 2P :B-TO-B
CN1513 3P WHT :S-MICRO
CN1509 3P RED :S-MICRO
CN1672 4P YEL :S-MICRO TO ZB BOARD CN1472
CN1757 12P WHT :S-MICRO
CN1716 4P BLK :S-MICRO
CN2009 3P BLK-L :S-MICRO
(AEP) CN2006 (GA) CN2004 4P RED-L :S-MICRO TO SPEAKER
CN2003 11P WHT-L :S-MICRO
CN2008 4P WHT-L :S-MICRO
CN2010(AEP) CN2002 (GA) 18P :B-TO-B
CN2001 18P
CN1 18P
CN204 11P WHT :S-MICRO
CN2 18P :B-TO-B
CN203 8P BLK :S-MICRO
CN205 4P WHT :S-MICRO
CN4 40P :BTOB
CN5 8P YEL :S-MICRO
CN6 1P :TAB
CN206 7P WHT :S-MICRO
CN1016 40P :B-TO-B
CN3203 4P :S-MICRO
CN3201 7P WHT :S-MICRO
CN3202 4P :MINI
CN1013 12P WHT :S-MICRO
CN1015 3P BLK :S-MICRO
CN1001 3P :MINI
CN1010 6P WHT :S-MICRO
CN1008 3P :MINI
CN1006 6P WHT :S-MICRO
CN1009 6P :MINI
CN1012 3P WHT :S-MICRO
CN1005 :FASTON
CN3062 5B3P WHT :VH TO G BOARD CN6007
CN3061 4B2P WHT :VH TO G BOARD CN6006
CN3002 8P BLK-L :S-MICRO
CN3006 2P :B-TO-B
CN6004 3P BLK :S-MICRO
CN6007 5B3P :VH
CN6006 4B2P :VH
CN6005 2P
CN6012 4P :MINI
CN6009 4P BLK :S-MICRO
CN6010 6P :MINI
CN6013 3P :MINI
CN6008 6P WHT :S-MICRO
CN6011 5P :MINI
CN6003 :FASTON
CN6002 :FASTON
CN6001 :FASTON
CN802 7P RED :S-MICRO TO CR BOARD CN702
CN827 3P :MINI
CN851 6P WHT :S-MICRO
CN882 4P :MINI
CN881 5P :MINI
CN805 :FASTON
CN904 4P WHT :S-MICRO
CN884 6P :MINI
CN885 2P :LARGE
CN886 2P :LARGE
TO ZR BOARD CN1414
B-SS493.<EA.>-KESSENZU

6-3. CIRCU



6-4. PRINT DIAGF

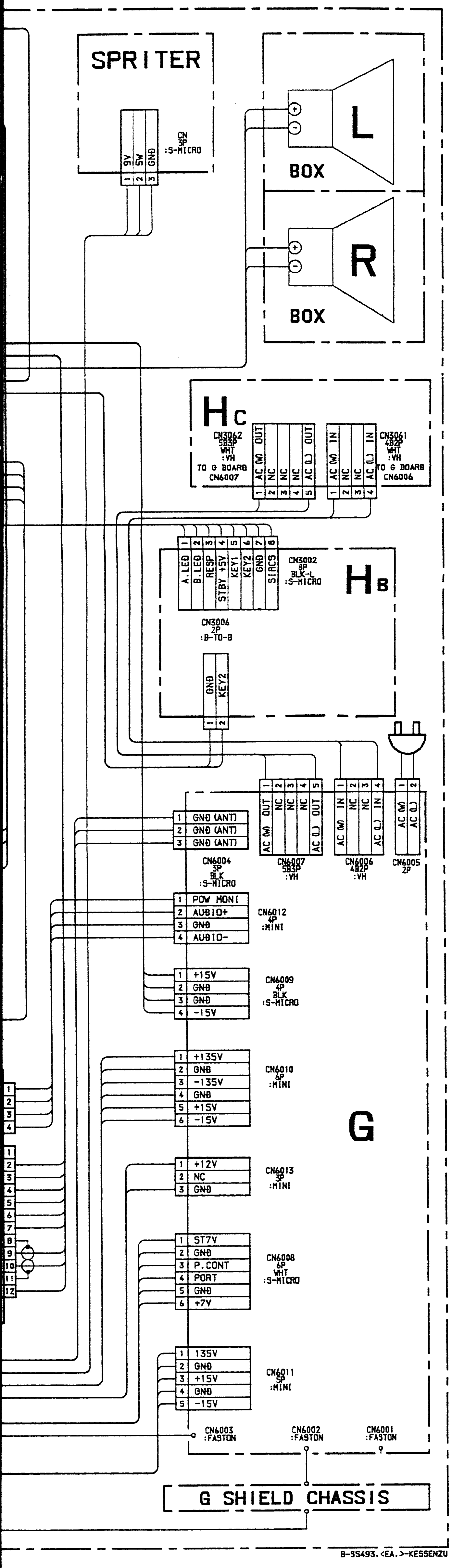
Note:

- Capacitors wit
- All resistors ar kΩ=1000Ω, M
- Indication of re as follows.

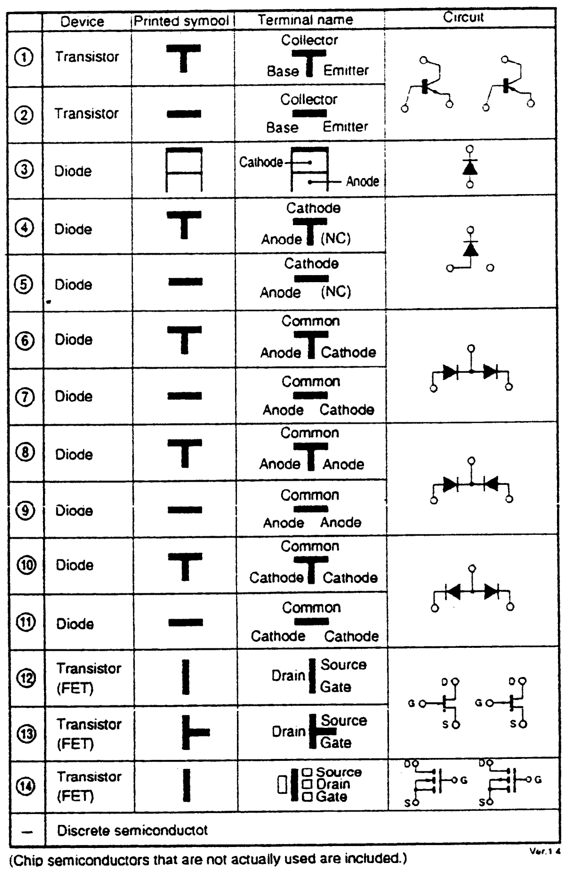
Pitch : 5mm
Rating elec

- ─▭─ : nonfla
- ─▭─ : fu
- △ : internal c
- ▭ : panel
- All variable and noted.
- ⏚ : earth-cha
- The componer carefully facto X-ray radiation Should replace
- When replacing indicated. If re identified by ▶ (Refer to R808
- When replacing

Pa
HVBlock C818, D804, Q915, R809, R883, R954, R995, R996, ...E B
HV Block, C918, C930, R808, R851, R945, R946, R967, R971, R985, R998 ....E BOAR


SPRITER
9V
5W
GND
CN
3P
:S-MICRO
L
BOX
R
BOX
Hc
CN3062
5B3P
WHT
:VH
TO G BOARD
CN6007
AC (W) OUT
NC
NC
NC
AC (L) OUT
AC (W) IN
NC
NC
AC (L) IN
CN3061
4B2P
WHT
:VH
TO G BOARD
CN6006
A.LED
B.LED
RESP
STBY +5V
KEY1
KEY2
GND
SIRCS
CN3002
8P
BLK-L
:S-MICRO
HB
CN3006
2P
:B-TO-B
GND
KEY2
GND (ANT)
GND (ANT)
GND (ANT)
CN6004
3P
BLK
:S-MICRO
CN6007
5B3P
:VH
CN6006
4B2P
:VH
CN6005
2P
AC (W)
AC (L)
POW MONI
AUDIO+
GND
AUDIO-
CN6012
4P
:MINI
+15V
GND
GND
-15V
CN6009
4P
BLK
:S-MICRO
+135V
GND
-135V
GND
+15V
-15V
CN6010
6P
:MINI
G
+12V
NC
GND
CN6013
3P
:MINI
ST7V
GND
P.CONT
PORT
GND
+7V
CN6008
6P
WHT
:S-MICRO
135V
GND
+15V
GND
-15V
CN6011
5P
:MINI
CN6003
:FASTON
CN6002
:FASTON
CN6001
:FASTON
G SHIELD CHASSIS
B-SS493.<EA.>-KESSENZU

Terminal name of semiconductors in silk screen printed circuit (*)

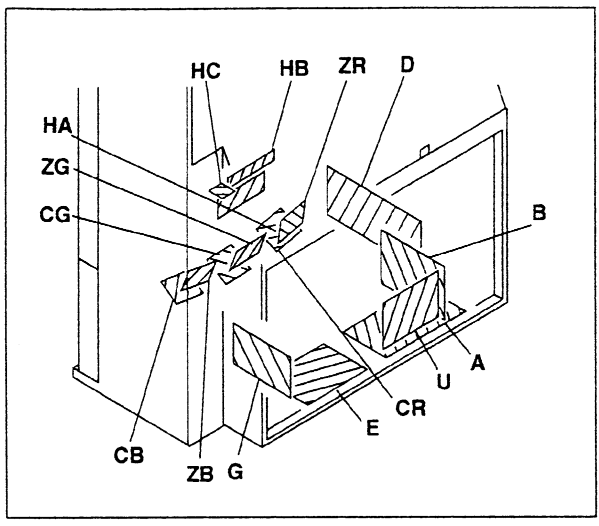


	Device	Printed symool	Terminal name	Circuit
①	Transistor	T	Collector Base Emitter	
②	Transistor	▬	Collector Base Emitter	
③	Diode		Cathode Anode	
④	Diode	T	Cathode Anode (NC)	
⑤	Diode	▬	Cathode Anode (NC)	
⑥	Diode	T	Common Anode Cathode	
⑦	Diode	▬	Common Anode Cathode	
⑧	Diode	T	Common Anode Anode	
⑨	Dioae	▬	Common Anode Anode	
⑩	Diode	T	Common Cathode Cathode	
⑪	Diode	▬	Common Cathode Cathode	
⑫	Transistor (FET)	I	Drain Source Gate	D G S
⑬	Transistor (FET)	⊢	Drain Source Gate	D G S
⑭	Transistor (FET)	I	☐ Source ☐ Drain ☐ Gate	D G S
–	Discrete semiconductot			

(Chip semiconductors that are not actually used are included.)

Ver.1.4

6-3. CIRCUIT BOARDS LOCATION


HC
HB
ZR
D
HA
ZG
CG
B
A
U
CR
E
CB
ZB
G

6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- Capacitors without voltage indication are all 50.
- All resistors are in ohms.
  kΩ=1000Ω, MΩ=1000kΩ
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : 1/4 W (CHIP : 1/10W)

- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ▭ : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⏚ : earth-chassis.
- The components identified by ⧓ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧓ and repeat the adjustment until the specified value is achieved. (Refer to R808,R809,R983 and R988 adjustment on Page 40 – 42.)
- When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (◪)	Adjustment (⧓)
HVBlock C818, D804, D806, D809, D909, D912, Q915, R809, R855, R856, R857, R858, R883, R954, R955, R984, R988, R991, R995, R996,T801(FBT), T803 ....E BOARD	HV HOLD-DOWN (R809, R988)
HV Block, C918, C930, C934, C980, D920, Q909, R808, R851, R936, R939, R942, R944, R945, R946, R947, R950, R960, R965, R967, R971, R975, R976, R982, R983, R985, R998 ....E BOARD	HV Regulator (R808, R983)

- As to the voltage volue shown by the semiconductors on the Shematic Diagram, see the another list
- Readings are taken with a color-bar signal input.
- Readings are taken with a 10MΩ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
  * : Measurement impossibillity.
- ▭ : B+line.
- ▭ : B-line.
  (Actual measured value may be different).
- ⇨ : signal path.
- Circled numbers are waveform references.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The symbol ▭ display is on the component side.

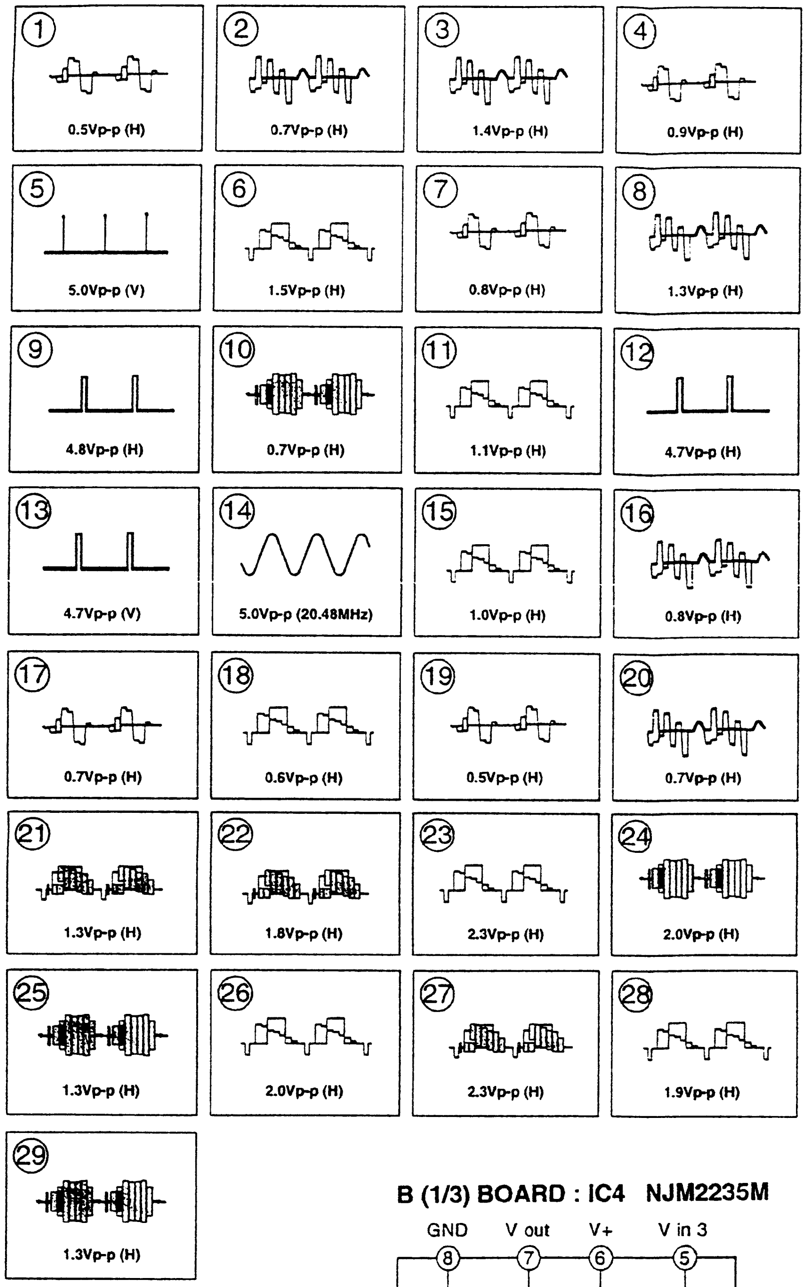
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

The symbol ▭ indicate fast operating fuse. Replace only with fuse of same rating as maked.

Note: Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Le symbole ▭ indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.

• B (1/3) BOARD WAVEFORMS

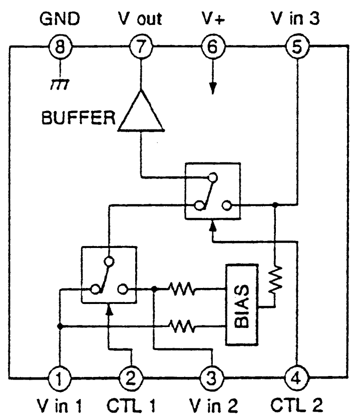


B (1/3) BOARD IC VOLTAGE LIST

IC1	1	GND		5	4.9		25	0.7
	2	GND		6	4.9		26	1.5
	3	GND		7	8.6		27	1.5
	4	GND		8	5.4		28	5.2
	5	GND		9	GND	IC7	1	4.4
	6	GND		10	0.8		2	1.5
	7	GND		11	0		3	1.5
	8	GND		12	3.5		4	0.7
	9	GND		13	2.8		5	1.5
	10	GND		14	2.8		6	1.9
	11	2.4		15	5.0		7	2.0
	12	GND		16	0.6		8	0.9
	13	4.9		17	0.4		9	1.0
	14	2.4		18	0.4		10	0.9
	15	2.4		19	5.3		11	0.9
	16	2.4		20	5.3		12	2.8
	17	4.9		21	5.3		13	GND
	18	4.9		22	3.2		15	4.8
	19	GND		23	4.5		16	GND
	20	0		24	4.4		17	2.3
	21	1.1		25	0.1		18	GND
	22	0.6		26	4.1		19	2.8
	23	GND		27	GND		20	1.2
	24	GND		28	3.9		21	2.8
	25	1.4		29	5.2		22	2.0
	26	4.9		30	2.9		23	2.6
	27	2.6		31	3.0		24	5.2
	28	4.9		32	0		25	GND
	29	4.9	IC4	1	4.6		26	GND
	30	GND		2	3.6		27	GND
	31	1.3		3	4.6		28	5.2
	32	3.0		4	GND	IC8	1	2.7
	33	3.2		5	4.0		2	2.3
	34	3.2		6	9.4		3	2.3
	35	GND		7	3.9		4	4.9
	36	1.1		8	GND		5	4.9
	37	4.9	IC5	1	5.3		6	0.7
	38	GND		3	GND		7	8.5
	39	1.6		4	GND		8	5.3
	40	3.0		5	0.8		9	GND
	41	3.2		8	GND		10	0.4
	42	3.2		9	5.2		11	7.7
	43	GND		10	GND		12	4.1
	52	GND		11	3.3		13	GND
	53	4.9		12	3.3		14	2.3
	56	4.9		14	1.6		15	GND
	67	4.9		16	1.6		16	GND
	68	4.9	IC6	1	4.4		18	3.9
	69	5.0		2	0.4		19	0.4
	70	5.0		3	5.2		21	4.3
	71	GND		4	2.1		25	8.5
	72	GND		5	0		26	4.1
	73	4.9		6	0		27	GND
	74	4.9		7	0		28	3.7
	75	GND		8	GND		29	5.0
	76	GND		9	0		30	2.5
	77	GND		10	0.4		31	1.7
	78	GND		11	0.4		32	0
	79	GND		12	2.1	IC10	1	5.2
	80	GND		13	2.6		3	GND
IC2	1	2.6		14	GND		4	GND
	2	2.0		15	4.9		5	0.7
	3	GND		16	5.0		8	GND
	4	3.1		17	2.8		9	5.2
	5	3.2		18	0.9		10	GND
	6	4.9		19	0.9		11	3.4
	7	3.5		20	1.0		12	3.3
IC3	1	2.4		21	0.9		14	1.6
	2	2.3		22	2.0		16	1.6
	3	2.7		23	1.9			
	4	2.7		24	1.5			

All Voltage are in V.
Pin numbers which are not described are not used.

B (1/3) BOARD : IC4 NJM2235M

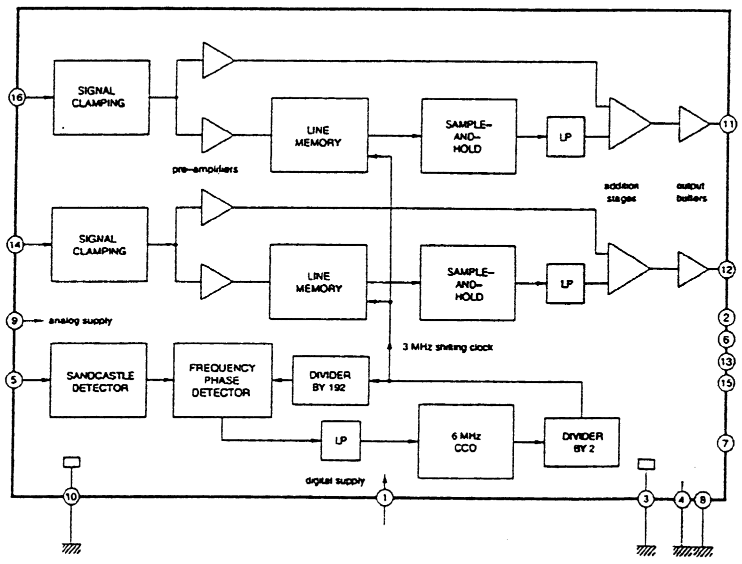

GND
V out
V+
V in 3
8
7
6
5
BUFFER
BIAS
1
2
3
4
V in 1
CTL 1
V in 2
CTL 2

B (1/3) BOARD TRANSISTOR VOLTAGE LIST

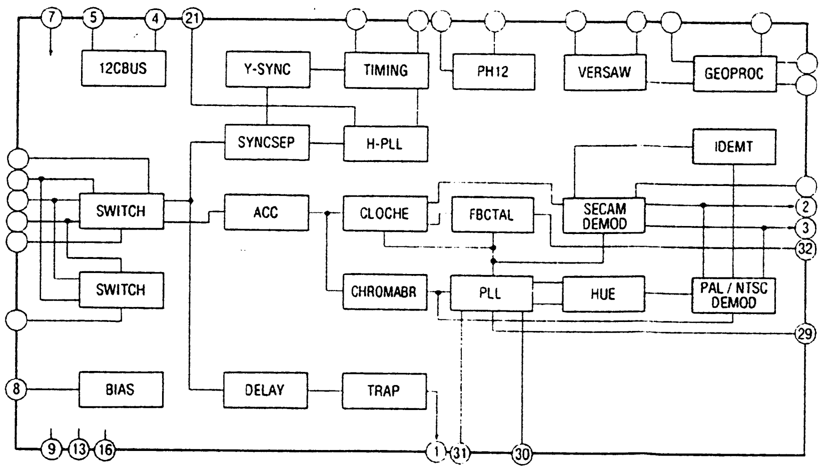
	B	C	E		B	C	E
Q1	5.4	9.4	4.8	Q26	8.0	3.3	8.5
Q2	4.0	4.8	4.9	Q27	2.7	8.0	2.1
Q3	0.7	4.0	GND	Q28	3.3	8.5	2.5
Q6	5.4	GND	6.0	Q29	4.6	0.4	GND
Q7	4.5	9.4	3.9	Q30	2.5	GND	3.1
Q8	0	7.8	GND	Q32	0	GND	0.8
Q9	1.2	4.9	1.4	Q33	0	GND	0.7
Q10	0.6	GND	1.2	Q34	0	GND	0.7
Q11	3.7	4.9	3.1	Q35	0	5.2	0.4
Q12	3.3	4.9	2.6	Q36	3.4	8.5	2.7
Q13	0	2.5	GND	Q37	3.4	8.5	2.7
Q14	3.5	8.6	2.9	Q38	1.8	8.5	1.9
Q15	2.9	8.6	2.2	Q41	0	5.3	GND
Q16	2.8	8.6	2.2	Q42	0.2	4.8	GND
Q17	3.7	0	GND	Q43	0	6.3	GND
Q18	2.9	GND	3.6	Q44	9.1	0	9.4
Q19	2.9	9.3	2.2	Q45	3.8	GND	4.4
Q20	2.2	GND	2.9	Q46	0	0	GND
Q22	2.5	3.2	1.8	Q47	0.7	8.6	0.7
Q23	1.6	GND	2.3	Q48	0	8.6	0.7
Q24	1.3	GND	1.9	Q49	0	0	GND
Q25	2.2	GND	2.8	Q52	6.3	9.1	5.7

All voltages are in V.

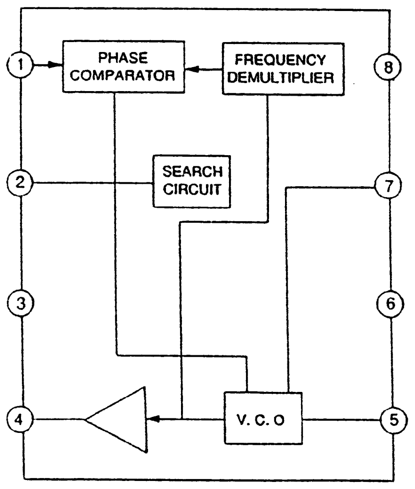
B (1/3) BOARD : IC10 TDA4665T

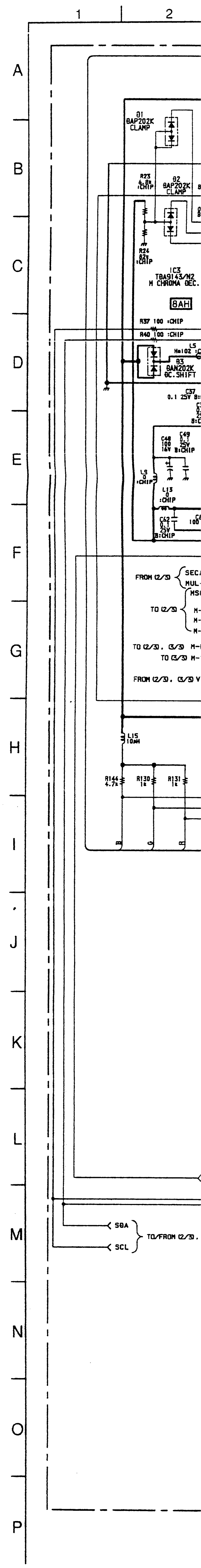

16
SIGNAL CLAMPING
LINE MEMORY
SAMPLE-AND-HOLD
LP
11
pre-amplifiers
addition stages
output buffers
14
SIGNAL CLAMPING
LINE MEMORY
SAMPLE-AND-HOLD
LP
12
9
analog supply
3 MHz shifting clock
2
6
13
15
5
SANDCASTLE DETECTOR
FREQUENCY PHASE DETECTOR
DIVIDER BY 192
LP
6 MHz CCO
DIVIDER BY 2
7
digital supply
10
1
3
4
8

B (1/3) BOARD : IC8 TDA9160A

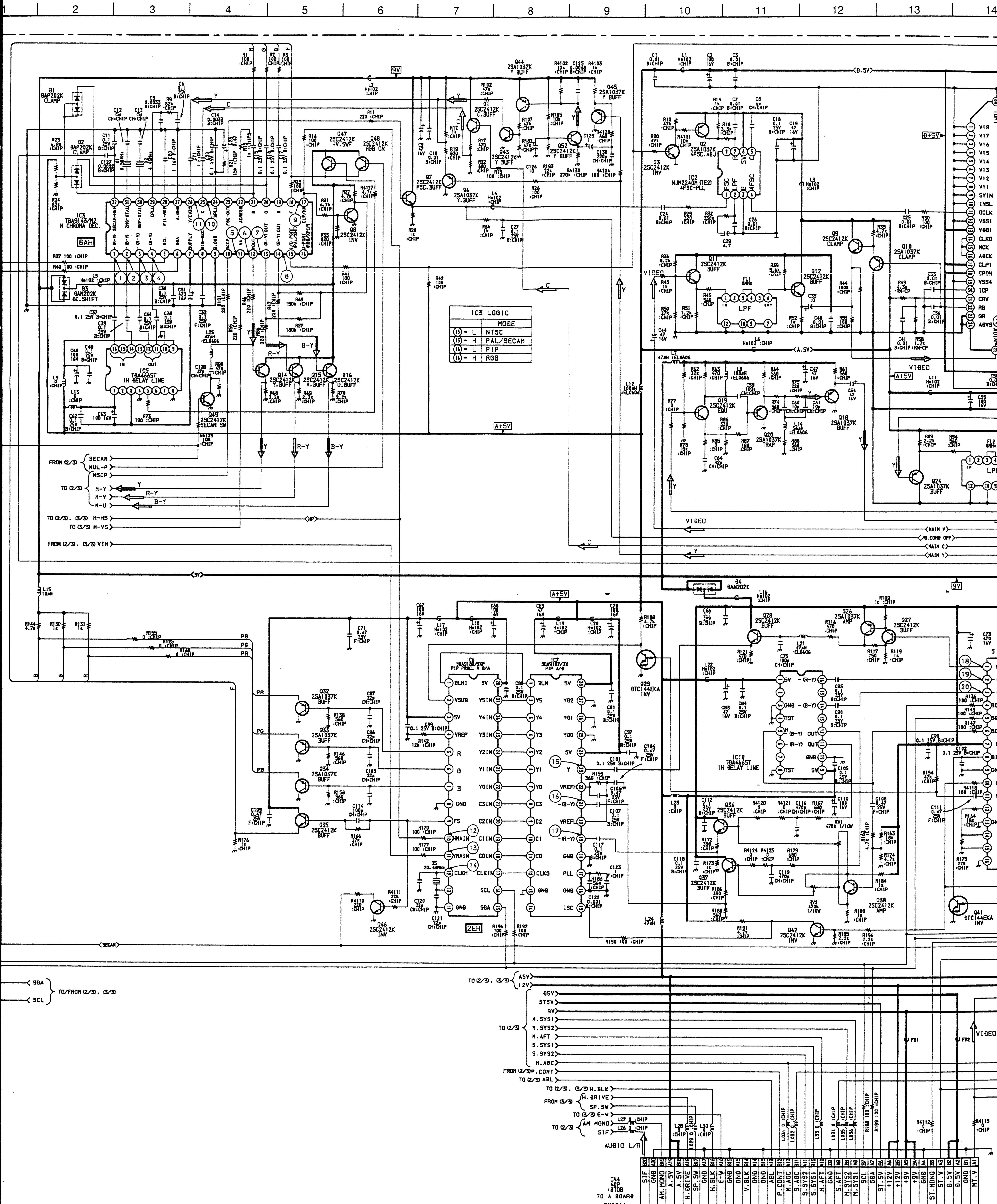

7
5
4
21
12CBUS
Y-SYNC
TIMING
PH12
VERSAW
GEOPROC
SYNCSEP
H-PLL
IDEMT
SWITCH
ACC
CLOCHE
FBCTAL
SECAM DEMOD
2
3
32
SWITCH
CHROMABR
PLL
HUE
PAL / NTSC DEMOD
29
8
BIAS
DELAY
TRAP
9
13
16
1
31
30

B (1/3) BOARD : IC2 NJM2240M (TE2)


1
PHASE COMPARATOR
FREQUENCY DEMULTIPLIER
8
SEARCH CIRCUIT
2
7
3
6
4
V. C. O
5


1
2
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
D1
BAP202K
CLAMP
R23
4.8k
:CHIP
D2
BAP202K
CLAMP
R24
82k
:CHIP
IC3
TBA9143/N2
M CHROMA DEC.
8AH
R37 100 :CHIP
R40 100 :CHIP
L5
D3
BAN202K
DC.SHIFT
C37
0.1 25V
C48
100
16V
C49
0.1
25V
B:CHIP
L9
0
:CHIP
L13
0
:CHIP
C62
0.1
25V
B:CHIP
FROM (2/3)
TO (2/3)
TO (2/3). (3/3)
TO (3/3)
FROM (2/3). (3/3)
L15
10mH
R144
4.7k
R130
1k
R131
1k
SDA
SCL
TO/FROM (2/3).

Schematic diagrams
B (1/3) board ➡



1
2
3
4
5
6
7
8
9
10
11
12
13
14
IC3 TBA9143/N2 M CHROMA DEC.
8AH
IC5 TBA446ST 1H DELAY LINE
Q1 8AP202K CLAMP
Q2 8AP202K CLAMP
Q3 8AN202K 8C.SHIFT
Q44 2SA1037K Y BUFF
Q45 2SA1037K Y BUFF
Q47 2SC2412K HV.SWF
Q48 2SC2412K RGB ON
Q7 2SC2412K F5C.BUFF
Q6 2SA1037K Y.BUFF
Q8 2SC2412K INV
Q14 2SC2412K Y.BUFF
Q15 2SC2412K V.BUFF
Q16 2SC2412K U.BUFF
Q49 2SC2412K SECAM SW
Q52 2SC2412K Y BUFF
IC2 NJM2240M (TE2) 4FSC-PLL
Q2 2SA1037K 4FSC.A8J
Q3 2SC2412K INV
Q9 2SC2412K CLAMP
Q10 2SA1037K CLAMP
Q11 2SC2412K BUFF
Q12 2SC2412K BUFF
FL1 6MHz LPF
Q19 2SC2412K EQU
Q20 2SA1037K TRAP
Q18 2SA1037K BUFF
Q24 2SA1037K BUFF
9V
B.5V
A.5V
A+5V
8+5V
VIDEO
FROM (2/3) SECAM
MUL-P
MSCP
TO (2/3) M-Y
M-V
M-U
TO (2/3), (3/3) M-HS
TO (3/3) M-VS
FROM (2/3), (3/3) VTM
MAIN V
V.COMB OFF
MAIN C
MAIN Y
Q4 8AN202K
IC6 SBA9186/EXP PIP PROC. & 8/A
IC7 SBA9187/ZX PIP A/8
2EH
Q29 8TC144EKA INV
Q32 2SA1037K BUFF
Q33 2SA1037K BUFF
Q34 2SA1037K BUFF
Q35 2SC2412K BUFF
Q46 2SC2412K INV
X5 20.48MHz
Q26 2SA1037K AMP
Q27 2SC2412K BUFF
Q28 2SC2412K BUFF
IC10 TBA446ST 1H DELAY LINE
Q36 2SC2412K BUFF
Q37 2SC2412K BUFF
Q38 2SC2412K AMP
Q42 2SC2412K INV
Q41 8TC144EKA INV
PR
PG
PB
SDA
SCL
TO/FROM (2/3), (3/3)
TO (2/3), (3/3) A5V
12V
TO (2/3) 05V
ST5V
9V
M.SYS1
M.SYS2
M.AFT
S.SYS1
S.SYS2
M.AGC
FROM (2/3) P.CONT
TO (2/3) ABL
TO (2/3), (3/3) H.BLK
FROM (3/3) H.DRIVE
SP.SW
TO (3/3) E-W
TO (2/3) AM MONO
SIF
AUDIO L/R
CN4 40P :8T08 TO A BOARD CN1016
SIF
GND
AM.MONO
A.5V
A.5V
H.DRIVE
SP.SW
GND
H.BLK
E-W
GND
GND
V.BLK
GND
GND
ABL
P.CONT
M.AGC
S.AGC
S.SYS2
S.SYS1
GND
M.AFT
GND
S.AFT
M.SYS2
M.SYS1
SCL
SDA
GND
ST.5V
+12V
+12V
+9V
+9V
GND
ST.MONO
ST.V
0.5V
0.5V
GND
MT.V
V18
V17
V16
V15
V14
V13
V12
V11
SYIN
INSL
OCLK
VSS1
V881
CLKO
MCK
A8CK
CLP1
CPON
VSS4
ICP
CRV
R8
GR
A8VS

IC3 LOGIC	
	MODE
⑮ – L	NTSC
⑮ – H	PAL/SECAM
⑭ – L	PIP
⑭ – H	RGB

E LIST

4.9		25	0.7
4.9		26	1.5
3.6		27	1.5
5.4		28	5.2
GND	IC7	1	4.4
0.8		2	1.5
0		3	1.5
3.5		4	0.7
2.8		5	1.5
2.8		6	1.9
5.0		7	2.0
0.6		8	0.9
0.4		9	1.0
0.4		10	0.9
5.3		11	0.9
5.3		12	2.8
5.3		13	GND
3.2		15	4.8
4.5		16	GND
4.4		17	2.3
0.1		18	GND
4.1		19	2.8
GND		20	1.2
3.9		21	2.8
5.2		22	2.0
2.9		23	2.6
3.0		24	5.2
0		25	GND
4.6		26	GND
3.6		27	GND
4.6		28	5.2
GND	IC8	1	2.7
4.0		2	2.3
9.4		3	2.3
3.9		4	4.9
GND		5	4.9
5.3		6	0.7
GND		7	8.5
GND		8	5.3
0.8		9	GND
GND		10	0.4
5.2		11	7.7
GND		12	4.1
3.3		13	GND
3.3		14	2.3
1.6		15	GND
1.6		16	GND
4.4		18	3.9
0.4		19	0.4
5.2		21	4.3
2.1		25	8.5
0		26	4.1
0		27	GND
0		28	3.7
GND		29	5.0
0		30	2.5
0.4		31	1.7
0.4		32	0
2.1	IC10	1	5.2
2.6		3	GND
GND		4	GND
4.9		5	0.7
5.0		8	GND
2.8		9	5.2
0.9		10	GND
0.9		11	3.4
1.0		12	3.3
0.9		14	1.6
2.0		16	1.6
1.9			
1.5			

All Voltage are in V.

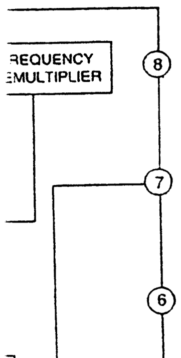
n are not described are not used.

LIST

B	C	E
8.0	3.3	8.5
2.7	8.0	2.1
3.3	8.5	2.5
4.6	0.4	GND
2.5	GND	3.1
0	GND	0.8
0	GND	0.7
0	GND	0.7
0	5.2	0.4
3.4	8.5	2.7
3.4	8.5	2.7
1.8	8.5	1.9
0	5.3	GND
0.2	4.8	GND
0	6.3	GND
9.1	0	9.4
3.8	GND	4.4
0	0	GND
0.7	8.6	0.7
0	8.6	0.7
0	0	GND
6.3	9.1	5.7

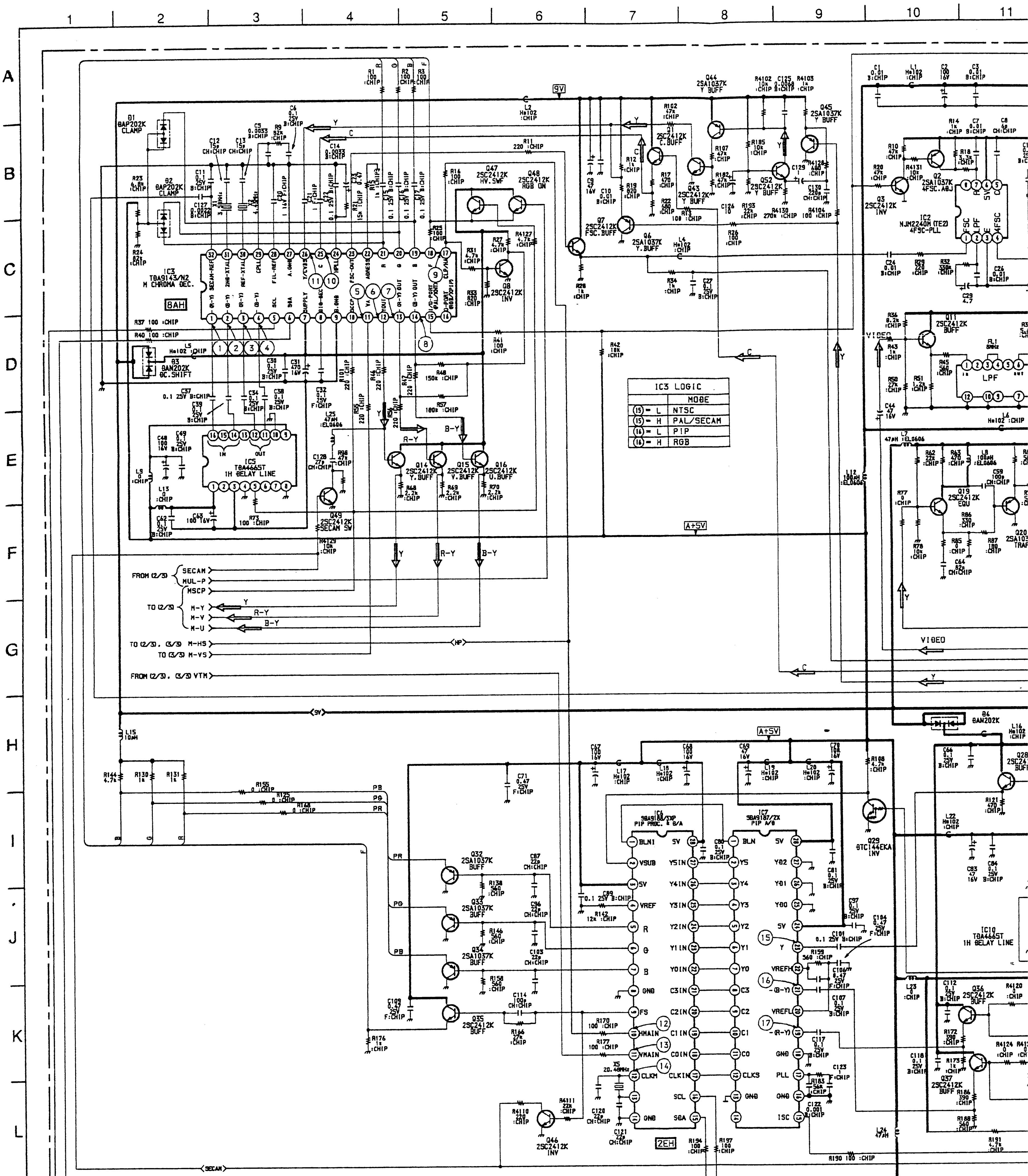
All voltages are in V.

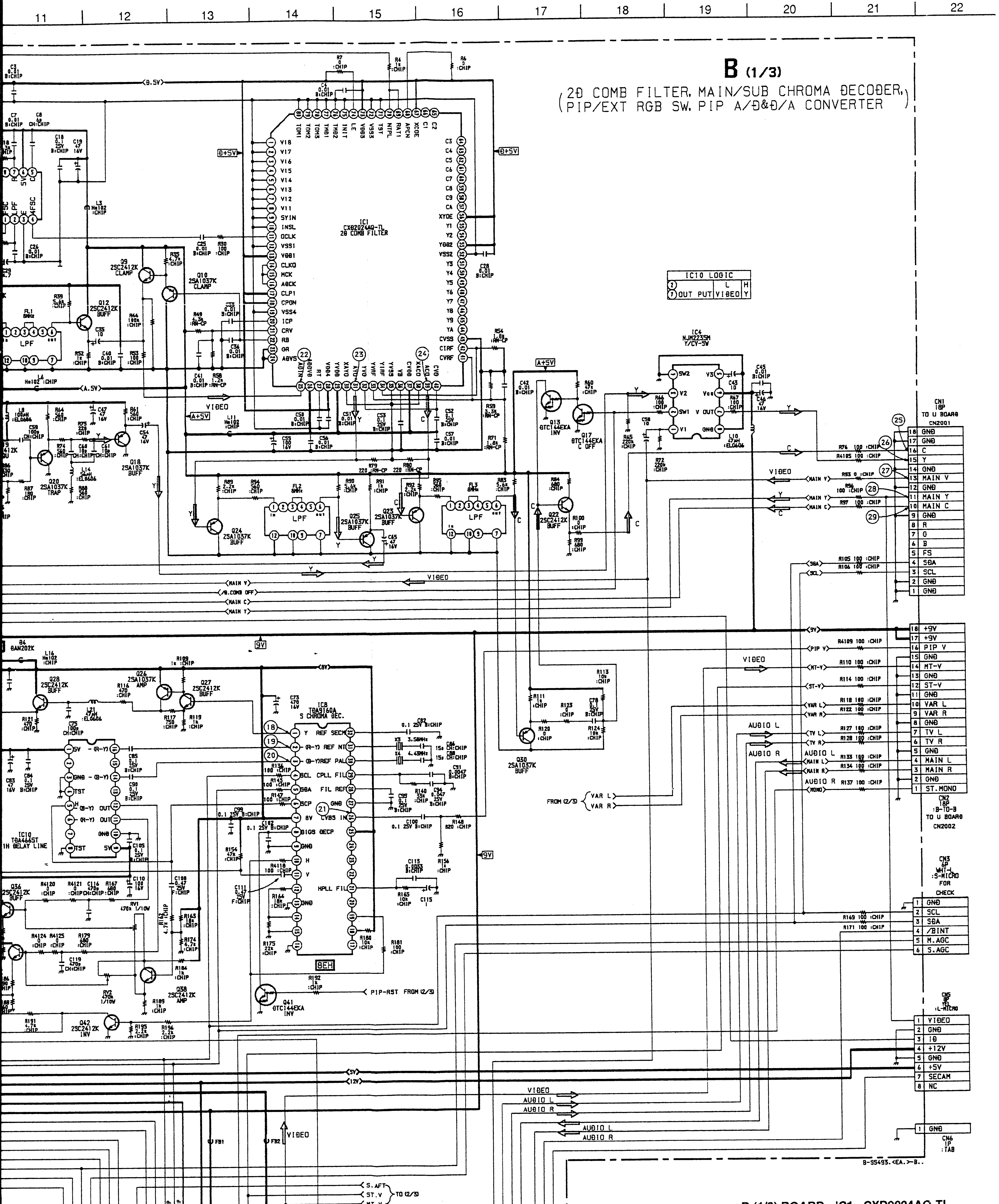
2 NJM2240M (TE2)


REQUENCY
EMULTIPLIER
8
7
6
5
V.C.O

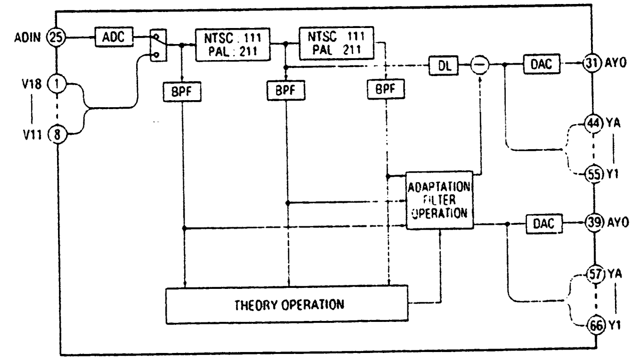
atic diagrams

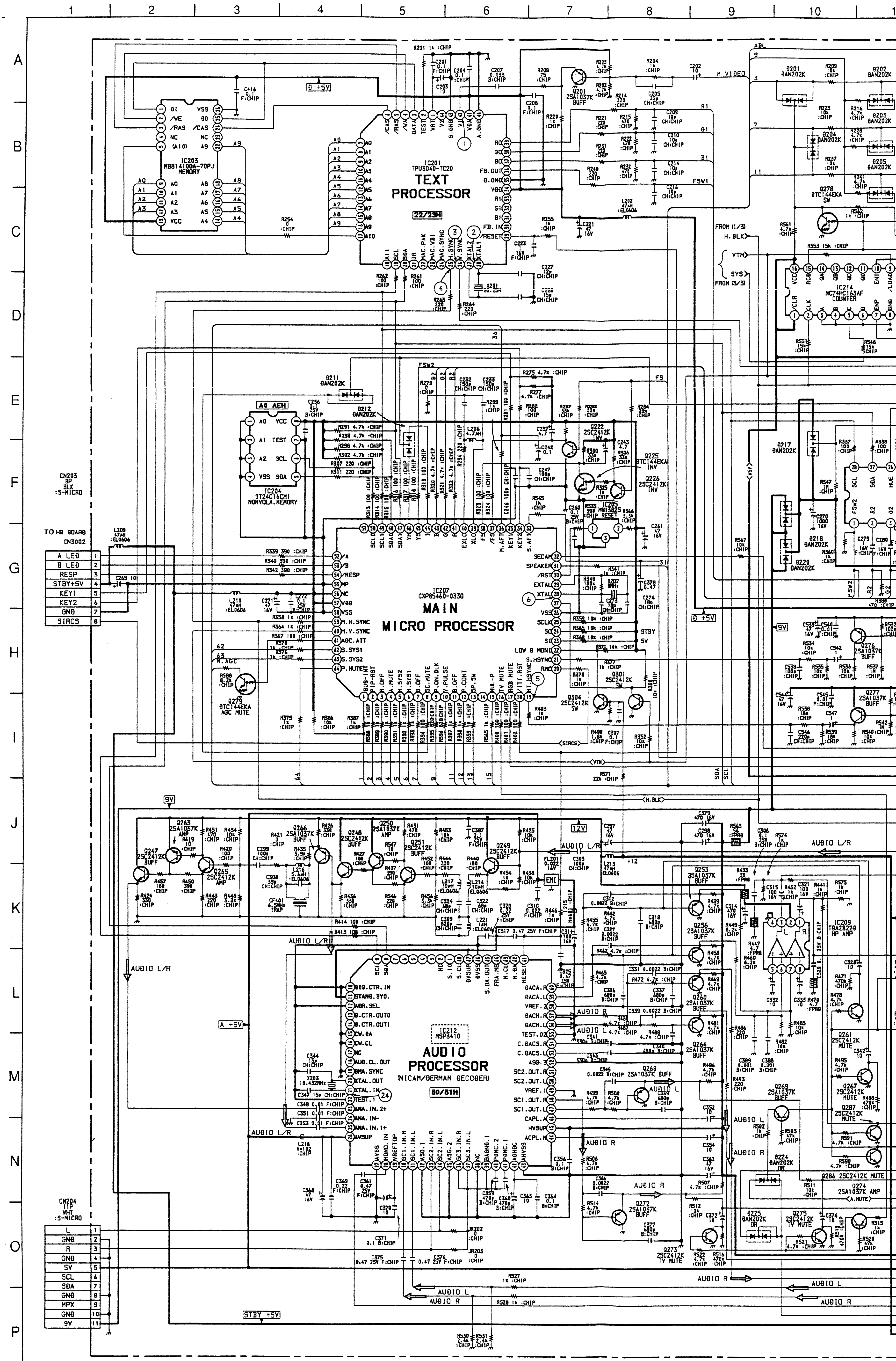
board ➡


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
IC3
TBA9143/N2
H CHROMA DEC.
8AH
IC5
TBA4665T
1H DELAY LINE
IC3 LOGIC
MODE
(15) = L NTSC
(15) = H PAL/SECAM
(16) = L PIP
(16) = H RGB
IC2
NJM2240M (TE2)
4FSC-PLL
IC6
SBA9188/ZXP
PIP PROC. & B/A
IC7
SBA9187/ZX
PIP A/D
2EH
IC10
TBA4665T
1H DELAY LINE
Q44 2SA1037K Y BUFF
Q45 2SA1037K Y BUFF
Q47 2SC2412K HV.SW
Q48 2SC2412K RGB ON
Q49 2SC2412K SECAM SW
Q29 BTC144EKA INV
9V
A+5V
FROM (2/3) SECAM MUL-P
MSCP
TO (2/3) M-Y M-Y M-U
TO (2/3), (3/3) M-HS
TO (3/3) M-VS
FROM (2/3), (3/3) VTM
SECAM
SDA
SCL
TO/FROM (2/3), (3/3)
TO (2/3), (3/3) A5V 12V
TO (2/3) D5V ST5V 9V M.SYS1 M.SYS2 M.AFT S.SYS1 S.SYS2 M.AGC
FROM (2/3) P.CONT
TO (2/3) ABL
TO (2/3), (3/3) H.BLK
FROM (3/3) H.DRIVE SP.SW
TO (3/3) E-W
TO (2/3) AM MONO SIF
AUDIO L/R
CN4 40P :BTOB TO A BOARD CN1016
VIDEO

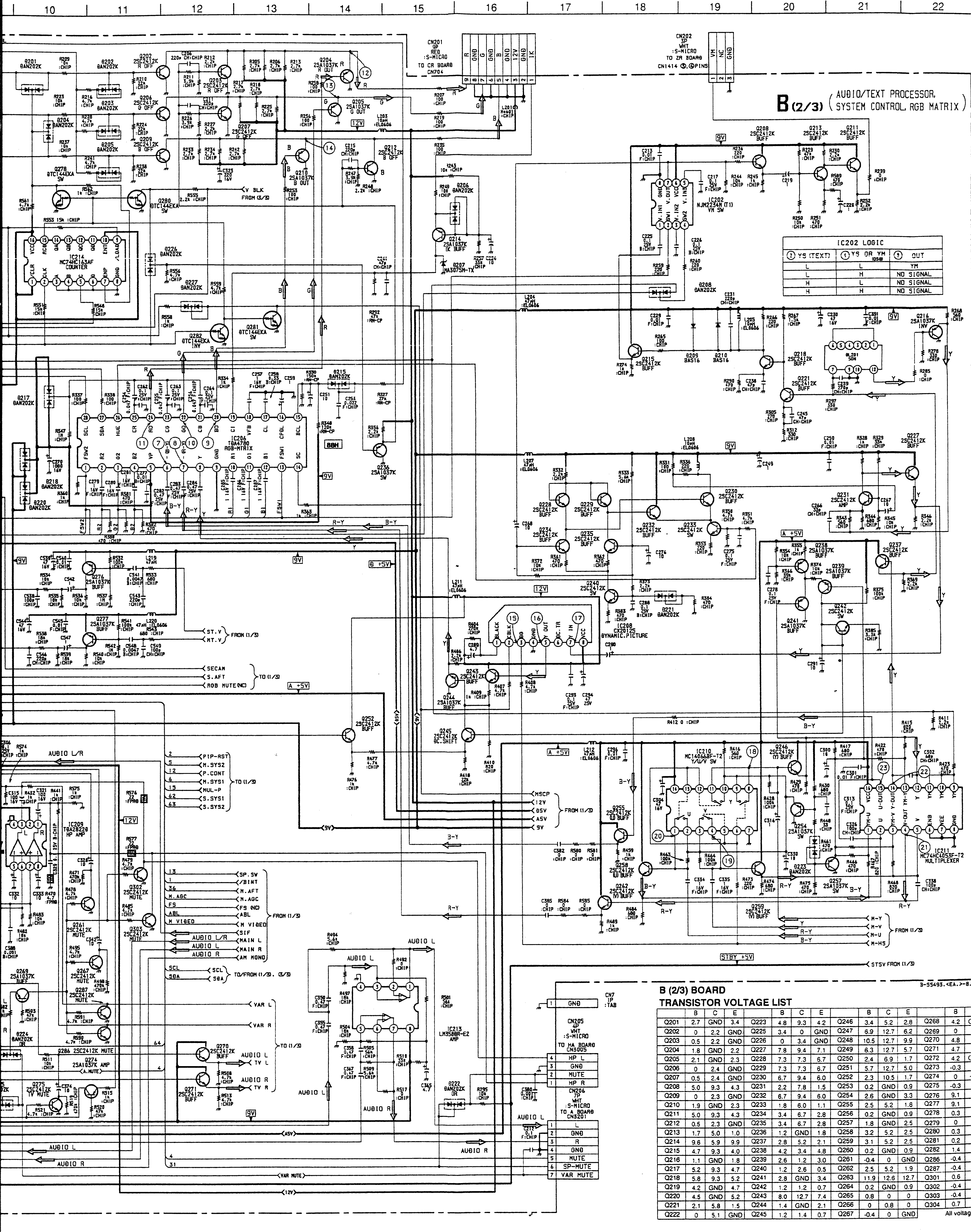

11
12
13
14
15
16
17
18
19
20
21
22
B (1/3)
(2D COMB FILTER, MAIN/SUB CHROMA DECODER, PIP/EXT RGB SW, PIP A/D&D/A CONVERTER)
IC1 CXD2024AQ-TL 2D COMB FILTER
IC10 LOGIC
2 L H
7 OUT PUT VIDEO Y
IC4 NJM2235M Y/CY-SW
IC8 TDA9160A S CHROMA DEC.
IC10 TDA4665T 1H DELAY LINE
CN1 18P TO U BOARD CN2001
18 GND
17 GND
16 C
15 Y
14 GND
13 MAIN V
12 GND
11 MAIN Y
10 MAIN C
9 GND
8 R
7 G
6 B
5 FS
4 SDA
3 SCL
2 GND
1 GND
18 +9V
17 +9V
16 PIP V
15 GND
14 MT-V
13 GND
12 ST-V
11 GND
10 VAR L
9 VAR R
8 GND
7 TV L
6 TV R
5 GND
4 MAIN L
3 MAIN R
2 GND
1 ST.MONO
CN2 18P :B-TO-B TO U BOARD CN2002
CN3 6P WHT :S-MICRO FOR CHECK
1 GND
2 SCL
3 SDA
4 /BINT
5 M.AGC
6 S.AGC
CN5 8P YEL :L-MICRO
1 VIDEO
2 GND
3 ID
4 +12V
5 GND
6 +5V
7 SECAM
8 NC
1 GND
CN6 1P :TAB
B-S5493.<EA.>-B..
VIDEO
AUDIO L
AUDIO R
FROM (2/3) VAR L VAR R
PIP-RST FROM (2/3)
S.AFT ST.V MT.V TO (2/3)
TO (2/3) M VIDEO MAIN L MAIN R
FROM (2/3) TV L TV R
TO (2/3) /BINT

B (1/3) BOARD : IC1 CXD2024AQ-TL


ADIN 25
ADC
NTSC 111 PAL: 211
NTSC 111 PAL 211
DL
DAC
31 AYO
V18 1
V11 8
BPF
44 YA
55 Y1
ADAPTATION FILTER OPERATION
DAC
39 AYO
57 YA
66 Y1
THEORY OPERATION


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
IC203
MB814100A-70PJ
MEMORY
IC201
TPU3040-TC20
TEXT
PROCESSOR
22/23H
D +5V
R201 1k :CHIP
Q201
2SA1037K
BUFF
M VIDEO
ABL
D201
DAN202K
D202
DAN202K
D203
DAN202K
D204
DAN202K
D205
DAN202K
Q278
DTC144EKA
SW
FROM (1/3)
H. BLK
VTM
SYS
FROM (3/3)
IC214
MC74HC163AF
COUNTER
X201
20.25M
D211
DAN202K
D212
DAN202K
IC204
ST24C16CM1
MONVOLA.MEMORY
CN203
8P
BLK
:S-MICRO
TO HB BOARD
CN3002
A LED
B LED
RESP
STBY+5V
KEY1
KEY2
GND
SIRCS
IC207
CXP85460-033Q
MAIN
MICRO PROCESSOR
Q279
DTC144EKA
AGC MUTE
Q222
2SC2412K
INV
Q225
DTC144EKA
INV
Q226
2SC2412K
INV
IC205
MM1382S
RESET
X202
8MHz
Q301
2SC2412K
SW
Q304
2SC2412K
SW
D217
DAN202K
D218
DAN202K
D220
DAN202K
D +5V
9V
Q276
2SA1037K
BUFF
Q277
2SA1037K
BUFF
Q263
2SA1037K
AMP
Q247
2SC2412K
BUFF
Q265
2SC2412K
AMP
Q266
2SA1037K
BUFF
Q248
2SC2412K
BUFF
Q250
2SA1037K
AMP
Q251
2SC2412K
BUFF
Q249
2SC2412K
BUFF
CF401
4.5MHz
TRAP
12V
FL201
AUDIO L/R
AUDIO L/R
A +5V
IC212
MSP3410
AUDIO
PROCESSOR
(NICAM/GERMAN DECODER)
80/81H
X203
18.432MHz
Q253
2SA1037K
BUFF
Q256
2SA1037K
BUFF
Q260
2SA1037K
BUFF
Q264
2SA1037K
BUFF
Q268
2SA1037K BUFF
Q269
2SA1037K
BUFF
IC209
TDA2822D
HP AMP
Q261
2SC2412K
MUTE
Q267
2SC2412K
MUTE
Q287
2SC2412K
MUTE
D224
DAN202K
OR
Q286 2SC2412K MUTE
Q274
2SA1037K AMP
(A.MUTE)
D225
DAN202K
OR
Q275
2SC2412K
TV MUTE
Q272
2SA1037K
BUFF
Q273
2SC2412K
TV MUTE
AUDIO L
AUDIO R
CN204
11P
WHT
:S-MICRO
L
GND
R
GND
5V
SCL
SDA
GND
MPX
GND
9V
STBY +5V

B(2/3) (AUDIO/TEXT PROCESSOR, SYSTEM CONTROL, RGB MATRIX)

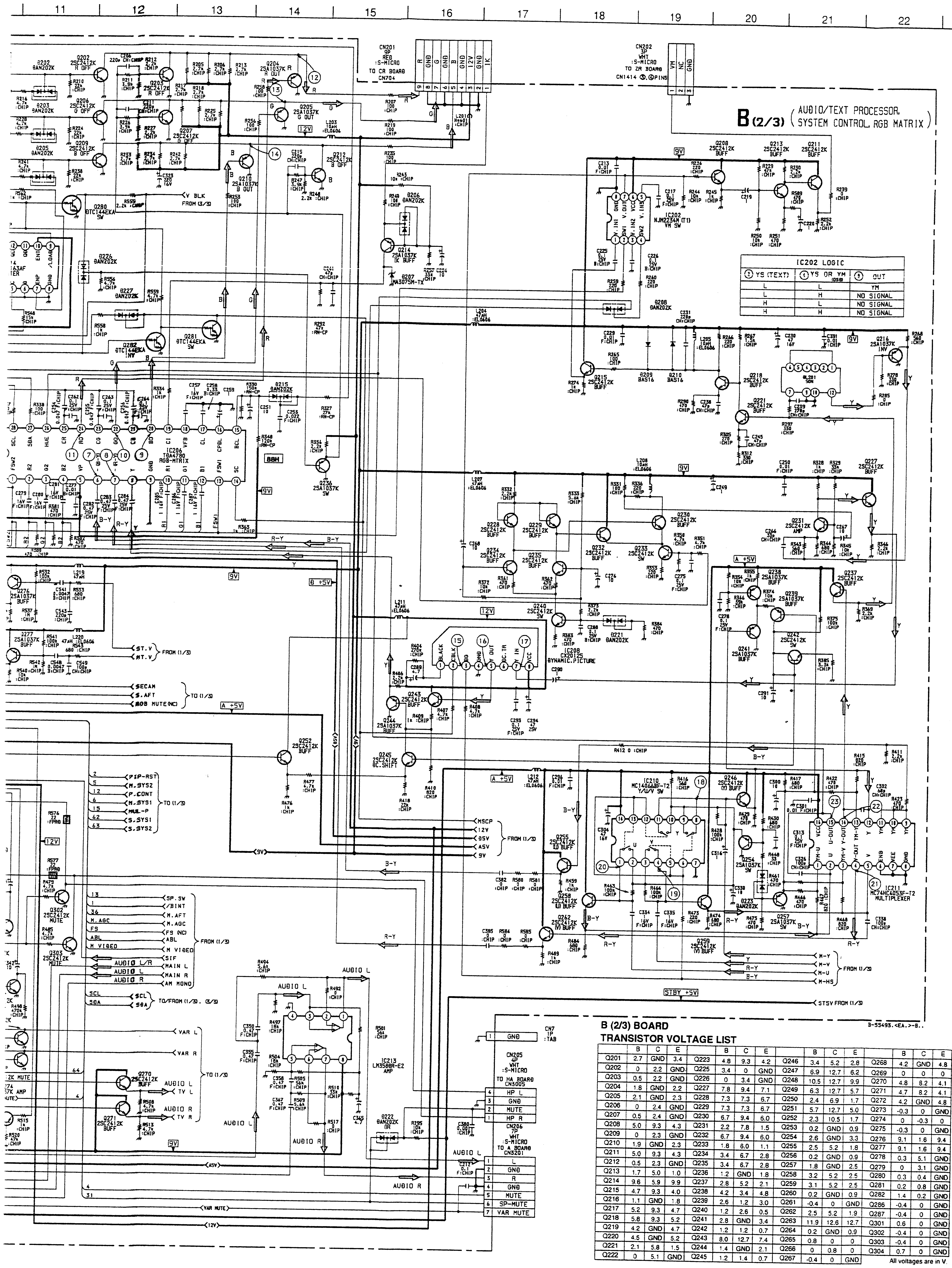

10
11
12
13
14
15
16
17
18
19
20
21
22
CN201 9P RED :S-MICRO TO CR BOARD CN704
CN202 3P WHT :S-MICRO TO ZR BOARD CN1414 ③,④PINS
IC214 MC74HC163AF COUNTER
IC206 TDA4780 RGB-MTRIX
IC202 NJM2234M (T1) VM SW
IC208 CX20125 DYNAMIC PICTURE
IC210 MC14066BF-T2 Y/U/V SW
IC211 MC74HC4053F-T2 MULTIPLEXER
IC209 TDA2822D HP AMP
IC213 LM3580M-E2 AMP
DL201 50N
CN7 1P :TAB
CN205 4P WHT :S-MICRO TO HA BOARD CN3005
CN206 7P WHT :S-MICRO TO A BOARD CN3201
GND
HP L
MUTE
HP R
L
R
SP-MUTE
VAR MUTE
V BLK FROM (3/3)
ST.V
MT.V
FROM (1/3)
SECAM
S.AFT
RGB MUTE(NC)
TO (1/3)
P1P-RST
M.SYS2
P.CONT
M.SYS1
MUL-P
S.SYS1
S.SYS2
MSCP
12V
05V
A5V
9V
SP.SW
/BINT
M.AFT
M.AGC
FS (NC)
ABL
M VIDEO
SIF
MAIN L
MAIN R
AM MONO
SCL
SDA
TO/FROM (1/3), (3/3)
VAR L
VAR R
TV L
TV R
AUDIO L/R
AUDIO L
AUDIO R
M-Y
M-V
M-U
M-HS
STBY +5V
ST5V FROM (1/3)
A +5V
B +5V
R-Y
B-Y
Y
B-55493.<EA.>-B.

IC202 LOGIC		
② YS (TEXT)	④ YS OR YM (OSD)	⑦ OUT
L	L	YM
L	H	NO SIGNAL
H	L	NO SIGNAL
H	H	NO SIGNAL

B (2/3) BOARD
TRANSISTOR VOLTAGE LIST

	B	C	E		B	C	E		B	C	E		B
Q201	2.7	GND	3.4	Q223	4.8	9.3	4.2	Q246	3.4	5.2	2.8	Q268	4.2
Q202	0	2.2	GND	Q225	3.4	0	GND	Q247	6.9	12.7	6.2	Q269	0
Q203	0.5	2.2	GND	Q226	0	3.4	GND	Q248	10.5	12.7	9.9	Q270	4.8
Q204	1.8	GND	2.2	Q227	7.8	9.4	7.1	Q249	6.3	12.7	5.7	Q271	4.7
Q205	2.1	GND	2.3	Q228	7.3	7.3	6.7	Q250	2.4	6.9	1.7	Q272	4.2
Q206	0	2.4	GND	Q229	7.3	7.3	6.7	Q251	5.7	12.7	5.0	Q273	-0.3
Q207	0.5	2.4	GND	Q230	6.7	9.4	6.0	Q252	2.3	10.5	1.7	Q274	0
Q208	5.0	9.3	4.3	Q231	2.2	7.8	1.5	Q253	0.2	GND	0.9	Q275	-0.3
Q209	0	2.3	GND	Q232	6.7	9.4	6.0	Q254	2.6	GND	3.3	Q276	9.1
Q210	1.9	GND	2.3	Q233	1.8	6.0	1.1	Q255	2.5	5.2	1.8	Q277	9.1
Q211	5.0	9.3	4.3	Q234	3.4	6.7	2.8	Q256	0.2	GND	0.9	Q278	0.3
Q212	0.5	2.3	GND	Q235	3.4	6.7	2.8	Q257	1.8	GND	2.5	Q279	0
Q213	1.7	5.0	1.0	Q236	1.2	GND	1.8	Q258	3.2	5.2	2.5	Q280	0.3
Q214	9.6	5.9	9.9	Q237	2.8	5.2	2.1	Q259	3.1	5.2	2.5	Q281	0.2
Q215	4.7	9.3	4.0	Q238	4.2	3.4	4.8	Q260	0.2	GND	0.9	Q282	1.4
Q216	1.1	GND	1.8	Q239	2.6	1.2	3.0	Q261	-0.4	0	GND	Q286	-0.4
Q217	5.2	9.3	4.7	Q240	1.2	2.6	0.5	Q262	2.5	5.2	1.9	Q287	-0.4
Q218	5.8	9.3	5.2	Q241	2.8	GND	3.4	Q263	11.9	12.6	12.7	Q301	0.6
Q219	4.2	GND	4.7	Q242	1.2	1.2	0.7	Q264	0.2	GND	0.9	Q302	-0.4
Q220	4.5	GND	5.2	Q243	8.0	12.7	7.4	Q265	0.8	0	0	Q303	-0.4
Q221	2.1	5.8	1.5	Q244	1.4	GND	2.1	Q266	0	0.8	0	Q304	0.7
Q222	0	5.1	GND	Q245	1.2	1.4	0.7	Q267	-0.4	0	GND		

All voltag



11
12
13
14
15
16
17
18
19
20
21
22
B (2/3) (AUDIO/TEXT PROCESSOR, SYSTEM CONTROL, RGB MATRIX)
CN201 9P RED :S-MICRO TO CR BOARD CN704
CN202 3P WHT :S-MICRO TO ZR BOARD CN1414 ③.⑨PINS
IC202 NJM2234M (T1) VM SW
IC206 TDA4780 RGB-MATRIX
IC208 CX20125 DYNAMIC PICTURE
IC210 MC14066BF-T2 Y/U/V SW
IC211 MC74HC4053F-T2 MULTIPLEXER
IC213 LM358OR-E2 AMP
CN7 1P :TAB
CN205 4P WHT :S-MICRO TO HA BOARD CN3005
CN206 7P WHT :S-MICRO TO A BOARD CN3201
FROM (1/3)
TO (1/3)
TO/FROM (1/3), (3/3)
STSV FROM (1/3)
B-55493.<EA.>-B..

IC202 LOGIC

② YS (TEXT)	④ YS OR YM (OSD)	⑨ OUT
L	L	YM
L	H	NO SIGNAL
H	L	NO SIGNAL
H	H	NO SIGNAL

B (2/3) BOARD
TRANSISTOR VOLTAGE LIST

	B	C	E		B	C	E		B	C	E		B	C	E
Q201	2.7	GND	3.4	Q223	4.8	9.3	4.2	Q246	3.4	5.2	2.8	Q268	4.2	GND	4.8
Q202	0	2.2	GND	Q225	3.4	0	GND	Q247	6.9	12.7	6.2	Q269	0	0	0
Q203	0.5	2.2	GND	Q226	0	3.4	GND	Q248	10.5	12.7	9.9	Q270	4.8	8.2	4.1
Q204	1.8	GND	2.2	Q227	7.8	9.4	7.1	Q249	6.3	12.7	5.7	Q271	4.7	8.2	4.1
Q205	2.1	GND	2.3	Q228	7.3	7.3	6.7	Q250	2.4	6.9	1.7	Q272	4.2	GND	4.8
Q206	0	2.4	GND	Q229	7.3	7.3	6.7	Q251	5.7	12.7	5.0	Q273	-0.3	0	GND
Q207	0.5	2.4	GND	Q230	6.7	9.4	6.0	Q252	2.3	10.5	1.7	Q274	0	-0.3	0
Q208	5.0	9.3	4.3	Q231	2.2	7.8	1.5	Q253	0.2	GND	0.9	Q275	-0.3	0	GND
Q209	0	2.3	GND	Q232	6.7	9.4	6.0	Q254	2.6	GND	3.3	Q276	9.1	1.6	9.4
Q210	1.9	GND	2.3	Q233	1.8	6.0	1.1	Q255	2.5	5.2	1.8	Q277	9.1	1.6	9.4
Q211	5.0	9.3	4.3	Q234	3.4	6.7	2.8	Q256	0.2	GND	0.9	Q278	0.3	5.1	GND
Q212	0.5	2.3	GND	Q235	3.4	6.7	2.8	Q257	1.8	GND	2.5	Q279	0	3.1	GND
Q213	1.7	5.0	1.0	Q236	1.2	GND	1.8	Q258	3.2	5.2	2.5	Q280	0.3	0.4	GND
Q214	9.6	5.9	9.9	Q237	2.8	5.2	2.1	Q259	3.1	5.2	2.5	Q281	0.2	0.8	GND
Q215	4.7	9.3	4.0	Q238	4.2	3.4	4.8	Q260	0.2	GND	0.9	Q282	1.4	0.2	GND
Q216	1.1	GND	1.8	Q239	2.6	1.2	3.0	Q261	-0.4	0	GND	Q286	-0.4	0	GND
Q217	5.2	9.3	4.7	Q240	1.2	2.6	0.5	Q262	2.5	5.2	1.9	Q287	-0.4	0	GND
Q218	5.8	9.3	5.2	Q241	2.8	GND	3.4	Q263	11.9	12.6	12.7	Q301	0.6	0	GND
Q219	4.2	GND	4.7	Q242	1.2	1.2	0.7	Q264	0.2	GND	0.9	Q302	-0.4	0	GND
Q220	4.5	GND	5.2	Q243	8.0	12.7	7.4	Q265	0.8	0	0	Q303	-0.4	0	GND
Q221	2.1	5.8	1.5	Q244	1.4	GND	2.1	Q266	0	0.8	0	Q304	0.7	0	GND
Q222	0	5.1	GND	Q245	1.2	1.4	0.7	Q267	-0.4	0	GND				

All voltages are in V.

C	E
GND	4.8
0	0
8.2	4.1
8.2	4.1
GND	4.8
0	GND
-0.3	0
0	GND
1.6	9.4
1.6	9.4
5.1	GND
3.1	GND
0.4	GND
0.8	GND
0.2	GND
0	GND
0	GND
0	GND
0	GND
0	GND
0	GND

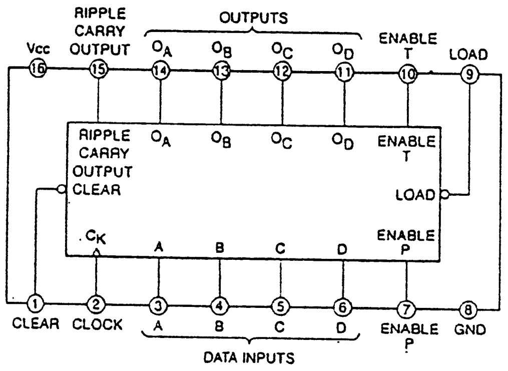
s are in V.

B (2/3) BOARD IC VOLTAGE LIST

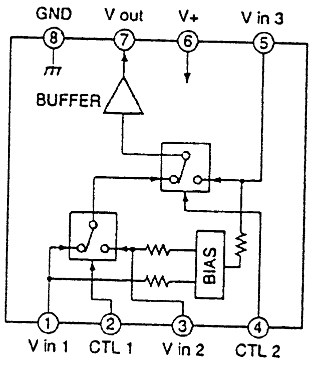
IC201	1	3.1		3	GND		43	0		11	5.2
	2	0	IC206	1	0		44	0		12	GND
	3	0.2		2	5.4		45	0		15	GND
	4	5.2		3	5.4		46	0		16	GND
	5	5.1		4	5.4		47	4.9		19	GND
	6	5.2		5	8.6		48	5.2		20	2.7
	7	2.7		6	4.3		49	4.9		21	2.6
	8	2.7		7	4.3		50	5.2		22	GND
	9	2.7		8	4.1		52	4.0		23	1.7
	10	2.7		9	GND		53	4.0		24	1.7
	11	2.7		10	5.4		54	4.0		25	0.7
	12	2.6		11	5.4		55	GND		26	5.2
	13	2.6		12	5.4		56	5.2		27	GND
	14	2.7		13	0		57	5.2		28	4.1
	15	2.7		14	0.8		58	0		29	2.9
	16	2.6		15	4.5		59	0.4		30	4.1
	17	2.6		16	5.1		60	0.6		31	4.1
	19	4.9		17	5.5		61	0		32	GND
	20	4.9		18	2.2		62	0		33	4.1
	25	0.4		19	5.8		63	0		34	4.1
	26	0.6		20	1.9		64	0		35	GND
	27	2.8		21	3.2	IC208	1	9.3		36	4.1
	28	*		22	2.1		2	0.6		37	4.1
	29	5.2		23	3.2		3	0.3		38	GND
	34	5.2		24	1.8		4	GND		39	4.1
	35	GND		25	3.0		5	8.0		40	4.1
	36	0		26	3.5		6	9.5		41	4.1
	37	0		27	5.0		7	6.1		42	4.1
	38	0		28	4.8		8	12.7		43	GND
	39	0	IC207	1	5.2	IC209	1	6.5		44	7.2
	40	GND		2	0		2	12.4		45	8.2
	41	5.2		3	0		3	6.6		46	7.1
	42	1.7		4	0		4	GND		47	4.2
	43	GND		5	0		5	1.4		48	4.2
IC202	1	5.7		6	0		6	0.9		49	GND
	2	0		7	0		7	0.9		52	GND
	3	5.8		8	0		8	1.4		53	4.1
	4	0		9	0	IC210	1	3.2		54	4.1
	5	5.7		10	0.6		2	3.3		55	GND
	6	9.3		11	0		3	3.3		56	0.2
	7	5.0		12	5.1		4	3.1		57	0.2
	8	GND		13	0		5	0.4		58	GND
IC203	1	0.2		15	0		6	0.4		59	0.2
	2	5.2		16	0		7	GND		60	0.2
	3	5.1		17	0		8	3.4		61	5.2
	5	0		18	5.2		9	3.3		66	GND
	9	2.7		19	0.2		10	3.3		67	5.2
	10	2.7		20	5.2		11	3.4	IC213	1	1.1
	11	2.7		21	0.2		12	0.4		2	1.2
	12	2.7		22	0		13	0.4		3	1.2
	13	5.2		23	0		14	5.2		4	GND
	14	5.7		24	0	IC211	1	2.5		5	1.2
	15	2.6		25	5.2		2	2.5		6	1.1
	16	2.6		26	GND		3	2.5		7	1.2
	17	2.7		27	0		4	2.5		8	8.2
	18	2.7		28	2.7		5	2.5	IC214	1	0
	22	2.6		29	2.6		6	GND		2	1.4
	24	5.2		30	5.2		7	GND		3	GND
	25	0.2		31	0		8	GND		4	GND
	26	GND		32	0		9	0		5	0
IC204	1	GND		33	0		10	0		6	GND
	2	GND		34	5.2		11	0		7	5.2
	3	GND		35	5.2		12	2.8		8	GND
	4	GND		36	2.6		13	2.6		9	0.5
	5	5.2		37	5.2		14	2.8		10	5.2
	6	5.2		38	0		15	2.5		15	0
	7	GND		39	3.8		16	5.2		16	5.3
	8	5.2		40	2.8	IC212	8	5.0			
IC205	1	5.2		41	0		9	4.9			
	2	5.2		42	0		10	GND			

All Voltage are in V.
Pin numbers which are not described are not used.
* : Can not measured.

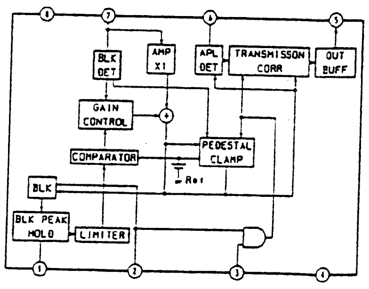
B (2/3) BOARD : IC214 MC74HC163AF


RIPPLE CARRY OUTPUT
OUTPUTS
Vcc
OA
OB
OC
OD
ENABLE T
LOAD
16
15
14
13
12
11
10
9
RIPPLE CARRY OUTPUT
CLEAR
CK
A
B
C
D
ENABLE P
1
2
3
4
5
6
7
8
CLEAR
CLOCK
A
B
C
D
ENABLE P
GND
DATA INPUTS

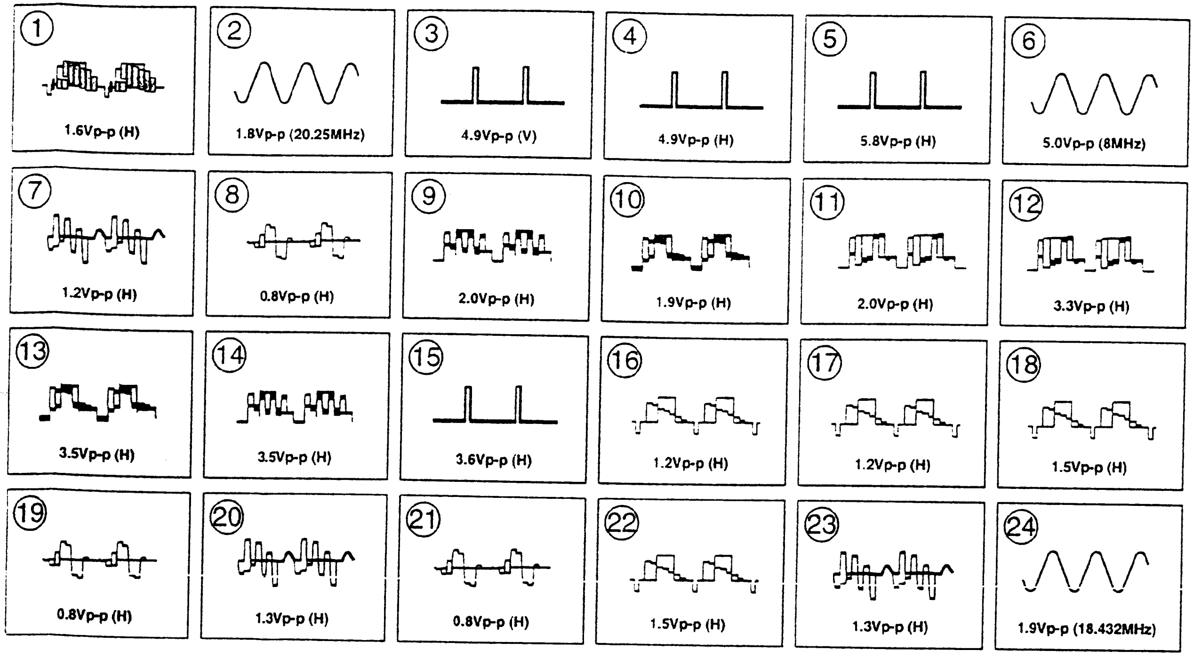
B (2/3) BOARD : IC202 NJM2234M


GND
V out
V+
V in 3
8
7
6
5
BUFFER
BIAS
1
2
3
4
V in 1
CTL 1
V in 2
CTL 2

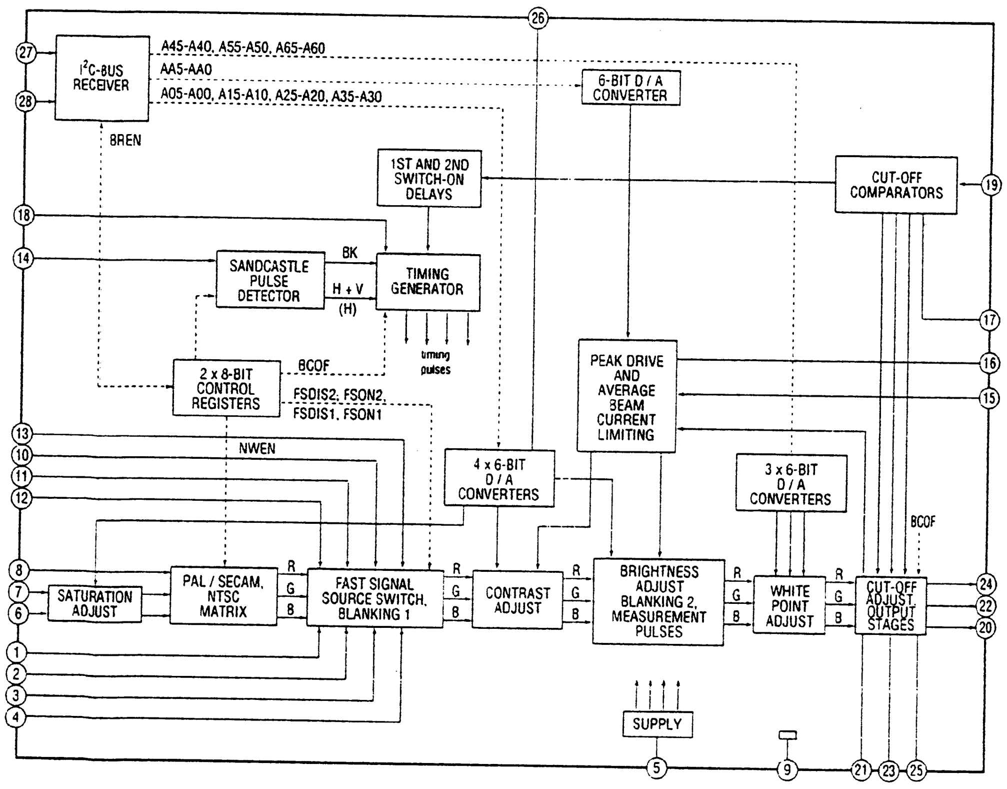
B (2/3) BOARD : IC208 CX20125


8
7
6
5
BLK DET
AMP X1
APL DET
TRANSMISSON CORR
OUT BUFF
GAIN CONTROL
+
PEDESTAL CLAMP
COMPARATOR
Ref
BLK
BLK PEAK HOLD
LIMITER
1
2
3
4

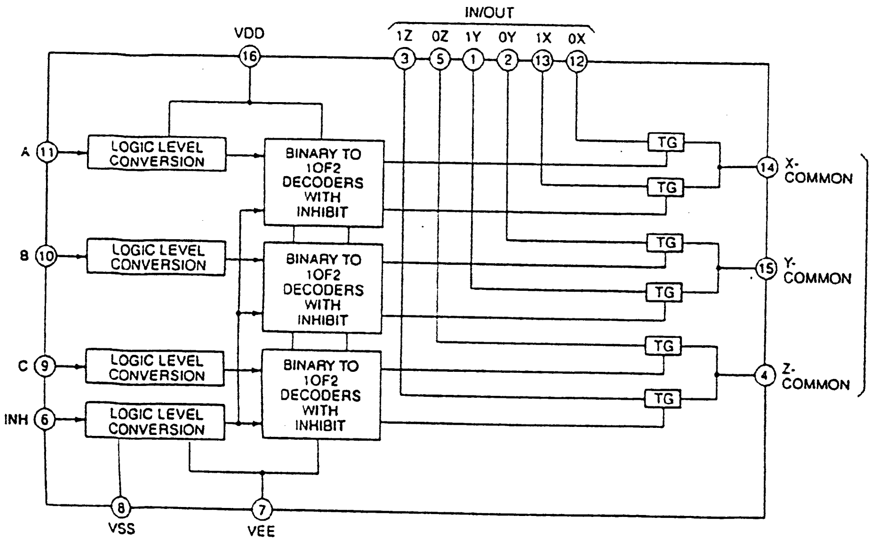
• B (2/3) BOARD WAVEFORMS



B (2/3) BOARD : IC206 TDA4780

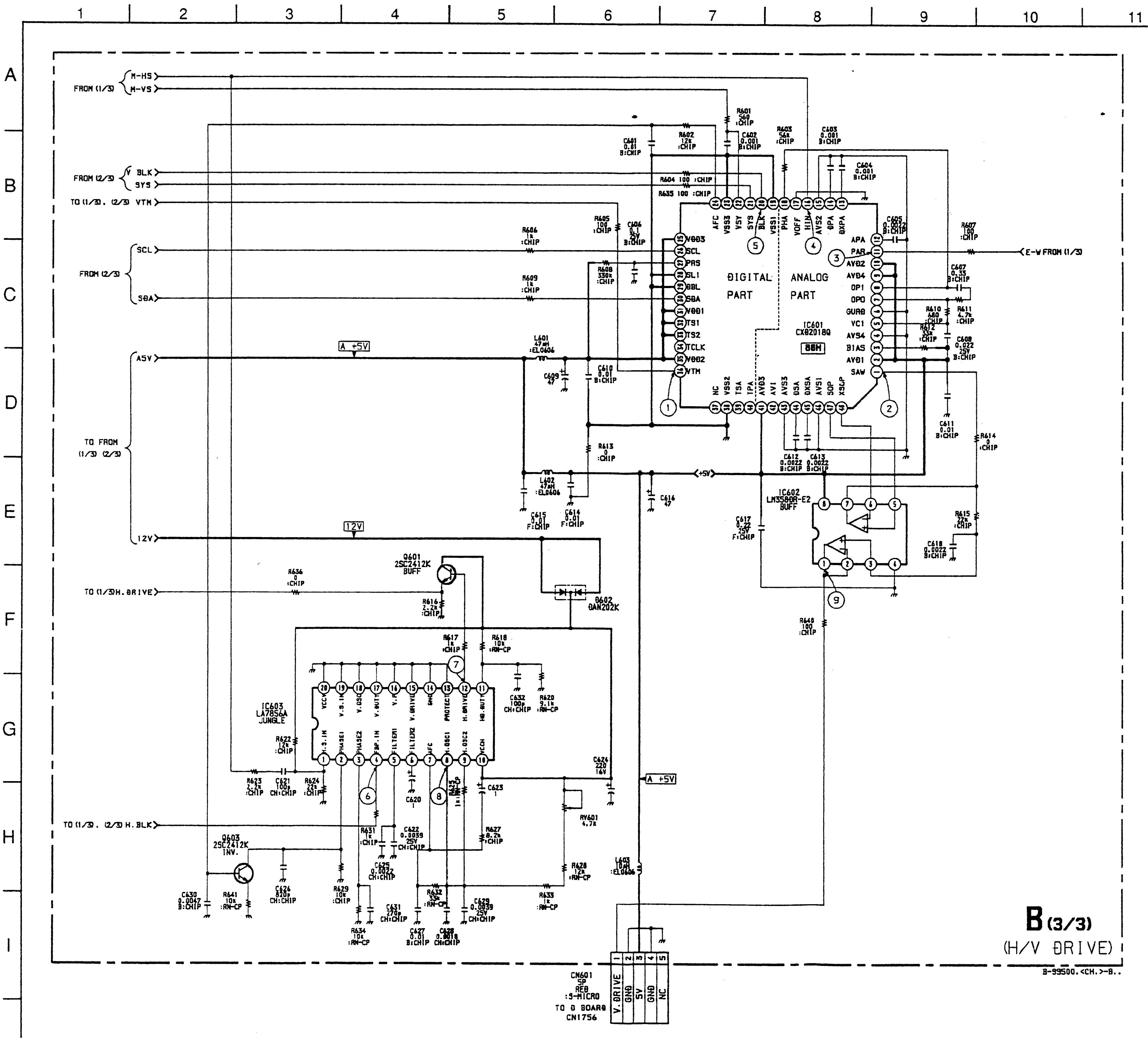

26
27
28
I²C-BUS RECEIVER
A45-A40, A55-A50, A65-A60
AA5-AA0
A05-A00, A15-A10, A25-A20, A35-A30
6-BIT D / A CONVERTER
BREN
1ST AND 2ND SWITCH-ON DELAYS
CUT-OFF COMPARATORS
19
18
14
SANDCASTLE PULSE DETECTOR
BK
H + V
(H)
TIMING GENERATOR
timing pulses
17
PEAK DRIVE AND AVERAGE BEAM CURRENT LIMITING
16
15
2 x 8-BIT CONTROL REGISTERS
BCOF
FSDIS2, FSON2,
FSDIS1, FSON1
NWEN
13
10
11
12
4 x 6-BIT D / A CONVERTERS
3 x 6-BIT D / A CONVERTERS
BCOF
8
7
6
SATURATION ADJUST
PAL / SECAM, NTSC MATRIX
R
G
B
FAST SIGNAL SOURCE SWITCH, BLANKING 1
CONTRAST ADJUST
BRIGHTNESS ADJUST BLANKING 2, MEASUREMENT PULSES
WHITE POINT ADJUST
CUT-OFF ADJUST, OUTPUT STAGES
24
22
20
1
2
3
4
SUPPLY
5
9
21
23
25

B (2/3) BOARD : IC211 MC74HC4053F-T2


IN/OUT
VDD
1Z
0Z
1Y
0Y
1X
0X
16
3
5
1
2
13
12
A
11
LOGIC LEVEL CONVERSION
BINARY TO 1OF2 DECODERS WITH INHIBIT
TG
14
X-COMMON
B
10
15
Y-COMMON
OUT/IN
C
9
4
Z-COMMON
INH
6
8
VSS
7
VEE

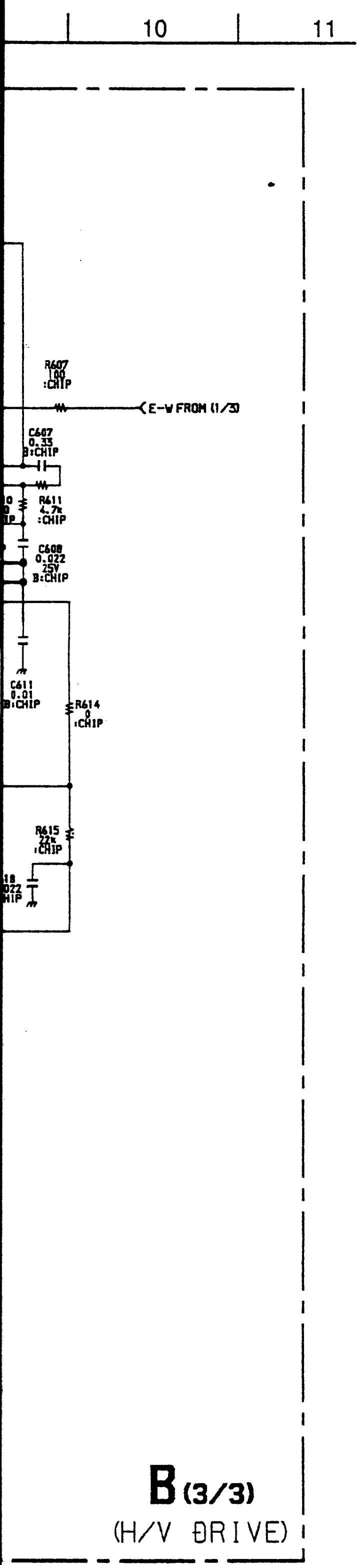
Schematic diagrams
⬅ B (2/3) board

Schematic diagrams
B (3/3) board ➡

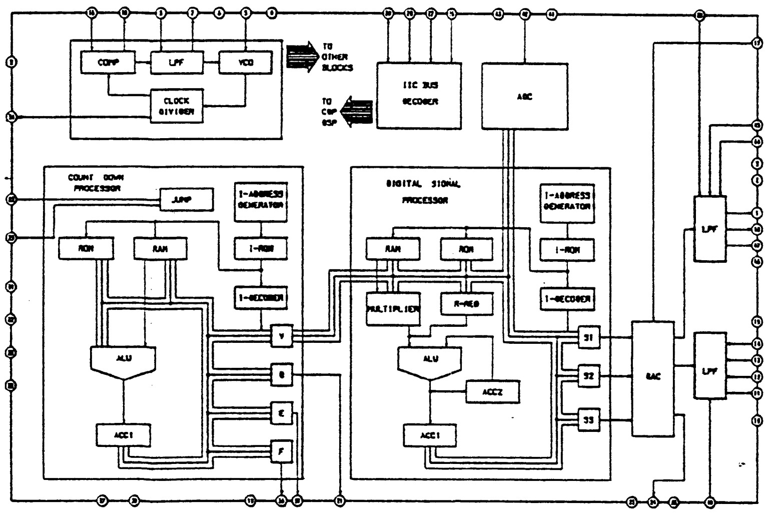

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
FROM (1/3)
H-HS
H-VS
FROM (2/3)
V BLK
SYS
TO (1/3), (2/3) VTM
FROM (2/3)
SCL
SBA
TO FROM (1/3) (2/3)
A5V
12V
A +5V
12V
TO (1/3)H.DRIVE
TO (1/3), (2/3) H.BLK
R601 560 :CHIP
R602 12k :CHIP
C601 0.01 B:CHIP
C602 0.001 B:CHIP
R603 56k :CHIP
C603 0.001 B:CHIP
C604 0.001 B:CHIP
R604 100 :CHIP
R635 100 :CHIP
C605 0.0022 B:CHIP
R607 100 :CHIP
E-W FROM (1/3)
R605 100 :CHIP
C606 0.1 25V B:CHIP
R606 1k :CHIP
R608 330k :CHIP
R609 1k :CHIP
AFC
VSS3
VSY
SYS
BLK
VSS1
PHA
VOFF
HIN
AVS2
DPA
DXPA
VDD3
SCL
PRS
SL1
DBL
SBA
VDD1
TS1
TS2
TCLK
VDD2
VTM
APA
PAR
AVD2
AVD4
OP1
OPO
GURD
VC1
AVS4
BIAS
AVD1
SAW
NC
VSS2
TSA
TPA
AVD3
AV1
AVS3
DSA
DXSA
AVS1
SOP
XSLP
DIGITAL PART
ANALOG PART
IC601 CXD2018Q
88H
C607 0.33 B:CHIP
R610 680 :CHIP
R611 4.7k :CHIP
R612 33k :CHIP
C608 0.022 25V B:CHIP
C611 0.01 B:CHIP
R614 0 :CHIP
L601 47μH :EL0606
C609 47
C610 0.01 B:CHIP
R613 0 :CHIP
L602 47μH :EL0606
C615 0.01 F:CHIP
C614 0.01 F:CHIP
+5V
C616 47
C612 0.0022 B:CHIP
C613 0.0022 B:CHIP
IC602 LM3580R-E2 BUFF
C617 0.22 25V F:CHIP
R615 22k :CHIP
C618 0.0022 B:CHIP
R640 100 :CHIP
Q601 2SC2412K BUFF
R636 0 :CHIP
R616 2.2k :CHIP
D602 DAN202K
R617 1k :CHIP
R618 10k :RN-CP
IC603 LA7856A JUNGLE
VCCV
V.S.IN
V.OSC
V.OUT
V.F
V.DRIVE
GND
PROTECT
H.DRIVE
HD.OUT
H.S.IN
PHASE1
PHASE2
FBP.IN
FILTER1
FILTER2
AFC
H.OSC1
H.OSC2
VCCH
C632 100p CH:CHIP
R620 9.1k :RN-CP
R622 12k :CHIP
R623 2.2k :CHIP
C621 100p CH:CHIP
R624 22k :CHIP
C620 1
R625 1k:RN-CP
C623 1
C624 220 16V
RV601 4.7k
Q603 2SC2412K INV.
C630 0.0047 B:CHIP
R641 10k :RN-CP
C626 820p CH:CHIP
R629 10k :CHIP
R631 1k :CHIP
C622 0.0039 25V CH:CHIP
C625 0.0022 CH:CHIP
R627 8.2k :CHIP
R628 12k :RN-CP
L603 10μH :EL0606
R634 10k :RN-CP
C631 270p CH:CHIP
C627 0.01 B:CHIP
C628 0.0018 CH:CHIP
R632 33k :RN-CP
C629 0.0039 25V CH:CHIP
R633 1k :RN-CP
CN601 5P RED :S-MICRO TO D BOARD CN1756
V.DRIVE
GND
5V
GND
NC
B (3/3)
(H/V DRIVE)
B-99500.<CH.>-B..

D BOARD

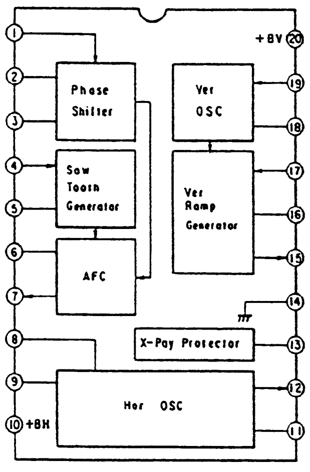
DIODE		*	D1953	B-10	–
D1501	B-8	–	D1954	C-10	–
D1502	B-8	–	I C		
D1503	B-8	–	IC1501	B-8	
D1505	A-5	–	IC1601	D-4	
D1551	C-6	–	IC1602	D-2	
D1552	A-6	–	IC1701	B-10	
D1553	A-6	–	IC1702	B-10	
D1601	E-4	–	IC1801	E-7	
D1602	E-5	–	IC1802	C-9	
D1603	C-1	–	IC1803	C-5	
D1604	D-1	–	IC1804	C-6	
D1803	C-9	–	IC1805	E-8	
D1812	B-5	–	IC1806	C-8	
D1814	B-5	–	IC1807	E-5	
D1825	D-6	–	IC1808	D-5	
D1826	D-5	–	IC1809	E-10	
D1827	D-7	–	IC1931	C-7	
D1931	C-7	–	IC1932	C-10	
D1932	C-7	–	TRANSISTOR		
D1934	C-7	–	Q1501	B-8	
D1935	C-7	–	Q1502	B-9	
D1936	C-10	–	Q1551	C-6	
D1937	C-10	–	Q1552	C-6	
D1942	D-7	–	Q1701	B-10	
D1945	C-10	–	Q1801	D-6	
D1946	D-10	–	Q1802	C-10	
D1947	D-10	–	Q1803	B-5	–
D1948	C-7	–	Q1804	D-6	
D1951	D-7	–	Q1805	D-5	–


10
11
R607
100
:CHIP
E-V FROM (1/3)
C607
0.33
B:CHIP
R611
4.7k
:CHIP
C608
0.022
25V
B:CHIP
C611
0.01
B:CHIP
R614
0
:CHIP
R615
22k
:CHIP
0.022
CHIP
B (3/3)
(H/V DRIVE)
B-99500.<CH.>-B..

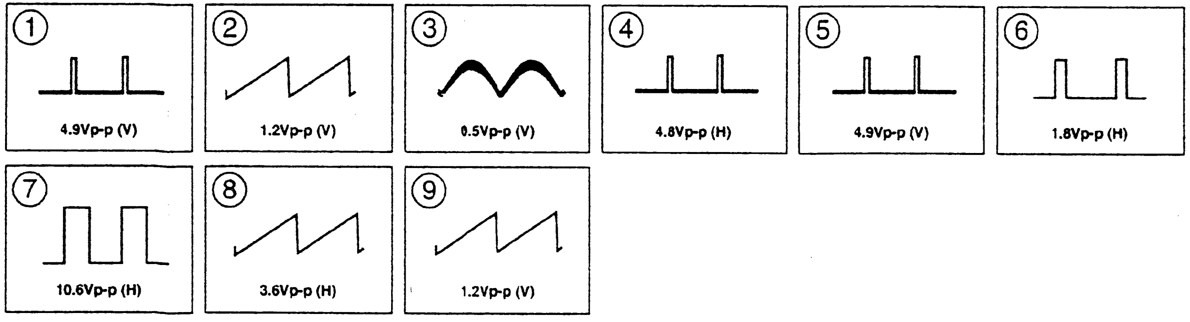
B (3/3) BOARD : IC601 CXD2018Q


COMP
LPF
VCO
CLOCK DIVIDER
TO OTHER BLOCKS
TO CSP ESP
IIC BUS DECODER
ABC
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
ROM
RAM
I-ROM
I-DECODER
ALU
ACC1
DIGITAL SIGNAL PROCESSOR
I-ADDRESS GENERATOR
RAM
ROM
I-ROM
MULTIPLIER
R-REG
I-DECODER
ALU
ACC2
ACC1
V
H
E
F
S1
S2
S3
DAC
LPF
LPF

B (3/3) BOARD : IC603 LA7856A


1
2
3
4
5
6
7
8
9
10
+8H
+8V
20
19
18
17
16
15
14
13
12
11
Phase Shifter
Ver OSC
Saw Tooth Generator
Ver Ramp Generator
AFC
X-Ray Protector
Hor OSC

• B (3/3) BOARD WAVEFORMS



B (3/3) BOARD IC VOLTAGE LIST

IC601	1	2.2		19	GND		41	5.3		4	0.9
	2	5.3		20	0.6		43	GND		5	4.0
	3	1.8		21	0		44	1.6		6	3.2
	4	GND		22	0.2		45	1.6		7	6.3
	5	2.4		23	0		46	GND		8	6.3
	6	GND		24	1.3		47	1.9		9	5.9
	7	2.4		25	5.3		48	1.9		10	12.0
	8	2.7		26	4.9	IC602	1	2.2		11	6.0
	9	5.3		27	5.1		2	2.2		12	4.7
	10	5.3		28	GND		3	2.2		13	GND
	11	2.2		29	GND		4	GND		14	GND
	12	2.2		30	4.9		5	1.9		15	GND
	13	1.6		31	5.3		6	1.9		16	GND
	14	1.6		32	5.3		7	2.1		17	GND
	15	GND		33	5.3		8	5.3		18	GND
	16	0.4		35	5.3	IC603	1	7.7		19	GND
	17	GND		36	0.5		2	8.3		20	GND
	18	2.7		38	GND		3	8.4			

All Voltage are in V.
Pin numbers which are not described are not used.

B (3/3) BOARD
TRANSISTOR VOLTAGE LIST

	B	C	E
Q601	4.7	12.0	4.2
Q603	1.3	8.3	0.7

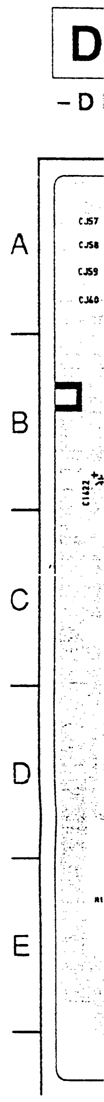
All voltages are in V.

B BOARD

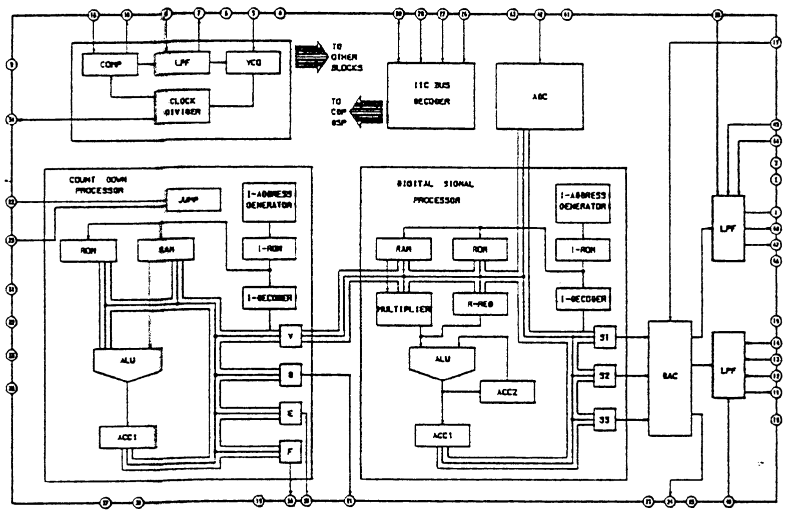
DIODE		*	Q11	F-3	②	Q232	D-6	②
D1	F-4	⑪	Q12	F-10	①	Q233	D-8	①
D2	F-4	⑪	Q13	G-4	②	Q234	D-6	②
D3	E-9	⑧	Q14	E-4	②	Q235	D-6	②
D4	G-10	⑧	Q15	E-4	②	Q236	F-8	①
D201	G-8	⑧	Q16	E-3	②	Q237	E-6	②
D202	G-8	⑧	Q17	G-4	②	Q238	E-8	①
D203	G-8	⑧	Q18	G-10	①	Q239	E-8	①
D204	G-8	⑧	Q19	F-10	①	Q240	D-6	②
D205	G-8	⑨	Q20	G-10	①	Q241	E-6	②
D206	F-6	⑨	Q22	G-10	①	Q242	D-8	①
D207	F-6	⑨	Q23	G-4	②	Q243	D-9	①
D208	G-6	⑨	Q24	G-4	②	Q244	E-8	①
D209	E-6	⑨	Q25	G-4	②	Q245	D-8	①
D210	E-6	⑨	Q26	G-10	①	Q246	E-5	②
D211	B-5	⑨	Q27	G-11	①	Q247	A-10	①
D212	B-9	⑧	Q28	G-11	①	Q248	A-11	①
D215	G-5	⑨	Q29	F-11	①	Q249	B-11	①
D217	F-7	⑧	Q30	G-10	①	Q250	A-12	①
D218	E-6	⑨	Q32	F-11	①	Q251	A-12	①
D220	E-6	⑨	Q33	E-11	①	Q252	D-8	①
D221	D-6	⑨	Q34	E-11	①	Q253	B-11	①
D222	A-10	⑧	Q35	E-3	②	Q254	D-9	①
D223	D-8	⑧	Q36	F-2	②	Q255	E-5	②
D224	C-1	⑨	Q37	F-2	②	Q256	B-11	①
D225	C-2	⑨	Q38	F-2	②	Q257	D-6	①
D226	D-4	⑨	Q41	G-11	①	Q258	D-4	②
D227	E-4	⑨	Q42	G-12	①	Q259	E-5	②
D602	D-10	⑧	Q43	G-8	①	Q260	C-3	②
D603	D-11	⑥	Q44	G-8	①	Q261	C-11	①
I C			Q45	G-8	①	Q262	E-5	②
IC1	G-4		Q46	E-2	②	Q263	A-11	①
IC2	G-9		Q47	E-9	①	Q264	C-2	②
IC3	F-4,F-9		Q48	E-9	①	Q265	A-11	①
IC4	G-11		Q49	E-9	①	Q266	A-11	①
IC5	E-4		Q52	G-8	①	Q267	B-11	①
IC6	F-2		Q201	B-8	①	Q268	B-11	①
IC7	F-2		Q202	G-8	①	Q269	C-12	①
IC8	G-2,G-11		Q203	G-6	②	Q270	B-2	②
IC10	F-3		Q204	G-6	②	Q271	B-2	②
IC201	B-6		Q205	G-6	②	Q272	B-11	①
IC202	G-6		Q206	G-8	①	Q273	B-12	①
IC203	A-6		Q207	G-6	②	Q274	B-12	①
IC204	A-8		Q208	G-7	①	Q275	B-12	①
IC205	C-9		Q209	G-8	①	Q276	C-8	①
IC206	F-6,F-8		Q210	G-8	①	Q277	C-9	①
IC207	B-5		Q211	G-7	①	Q278	D-9	①
IC208	D-5,D-9		Q212	G-6	②	Q279	B-9	①
IC209	B-3		Q213	G-7	①	Q280	D-4	②
IC210	D-5		Q214	F-6	③	Q281	E-4	②
IC211	E-5		Q215	D-7	①	Q282	D-4	②
IC212	B-2		Q216	D-8	①	Q286	C-2	②
IC213	B-10		Q217	D-6	②	Q287	C-2	②
IC214	D-4		Q218	E-7	①	Q301	B-9	①
IC601	D-2		Q219	D-7	①	Q302	A-11	①
IC602	E-2		Q220	D-6	②	Q303	A-11	①
IC603	E-3,E-10		Q221	E-6	②	Q304	C-10	①
TRANSISTOR		*	Q222	B-8	①	Q601	E-11	①
Q1	F-9	①	Q223	D-6	②	Q602	D-11	①
Q2	G-9	①	Q225	D-9	①	VARIABLE		
Q3	G-9	①	Q226	B-5	②	RESISTOR		
Q6	F-8	①	Q227	D-8	①	RV1	F-2,F-12	
Q7	F-9	①	Q228	D-6	②	RV2	F-2,F-12	
Q8	F-10	①	Q229	D-6	②	RV601	D-3,D-10	
Q9	F-10	①	Q230	D-8	①			
Q10	F-4	②	Q231	D-8	①			

D BOARD

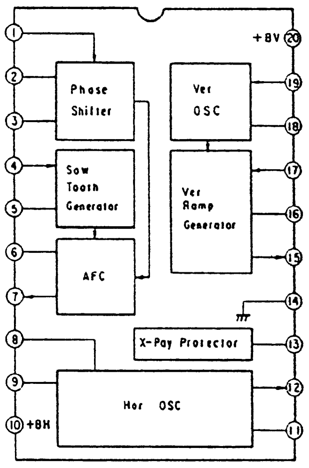
DIODE		*	D1953	B-10	–
D1501	B-8	–	D1954	C-10	–
D1502	B-8	–	I C		
D1503	B-8	–	IC1501	B-8	
D1505	A-5	–	IC1601	D-4	
D1551	C-6	–	IC1602	D-2	
D1552	A-6	–	IC1701	B-10	
D1553	A-6	–	IC1702	B-10	
D1601	E-4	–	IC1801	E-7	
D1602	E-5	–	IC1802	C-9	
D1603	C-1	–	IC1803	C-5	
D1604	D-1	–	IC1804	C-6	
D1803	C-9	–	IC1805	E-8	
D1812	B-5	–	IC1806	C-8	
D1814	B-5	–	IC1807	E-5	
D1825	D-6	–	IC1808	D-5	
D1826	D-5	–	IC1809	E-10	
D1827	D-7	–	IC1931	C-7	
D1931	C-7	–	IC1932	C-10	
D1932	C-7	–	TRANSISTOR		*
D1934	C-7	–	Q1501	B-8	①
D1935	C-7	–	Q1502	B-9	①
D1936	C-10	–	Q1551	C-6	①
D1937	C-10	–	Q1552	C-6	①
D1942	D-7	–	Q1701	B-10	①
D1945	C-10	–	Q1801	D-6	①
D1946	D-10	–	Q1802	C-10	①
D1947	D-10	–	Q1803	B-5	–
D1948	C-7	–	Q1804	D-6	①
D1951	D-7	–	Q1805	D-5	–



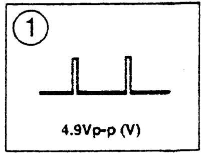
B (3/3) BOARD : IC601 CXD2018Q

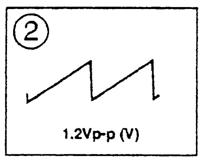

COMP
LPF
VCO
CLOCK DIVIDER
TO OTHER BLOCKS
TO CDP DSP
IIC BUS DECODER
AGC
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
ROM
SAM
I-ROM
I-DECODER
ALU
ACC1
Y
B
E
F
DIGITAL SIGNAL PROCESSOR
I-ADDRESS GENERATOR
RAM
ROM
I-ROM
MULTIPLIER
R-REG
I-DECODER
ALU
ACC2
ACC1
S1
S2
S3
DAC
LPF
LPF

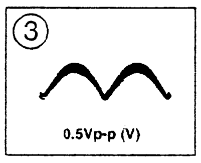
B (3/3) BOARD : IC603 LA7856A

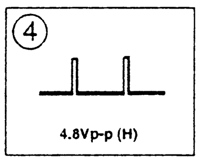

Phase Shifter
Saw Tooth Generator
AFC
Ver OSC
Ver Ramp Generator
X-Pay Protector
Hor OSC
+8V
+8H
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

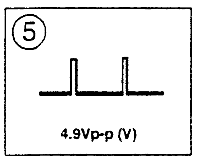
• B (3/3) BOARD WAVEFORMS

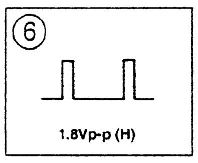

①
4.9Vp-p (V)

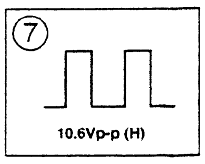

②
1.2Vp-p (V)

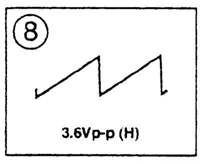

③
0.5Vp-p (V)

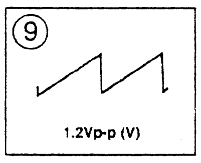

④
4.8Vp-p (H)


⑤
4.9Vp-p (V)


⑥
1.8Vp-p (H)


⑦
10.6Vp-p (H)


⑧
3.6Vp-p (H)


⑨
1.2Vp-p (V)

B (3/3) BOARD IC VOLTAGE LIST

IC601	1	2.2		19	GND		41	5.3		4	0.9
	2	5.3		20	0.6		43	GND		5	4.0
	3	1.8		21	0		44	1.6		6	3.2
	4	GND		22	0.2		45	1.6		7	6.3
	5	2.4		23	0		46	GND		8	6.3
	6	GND		24	1.3		47	1.9		9	5.9
	7	2.4		25	5.3		48	1.9		10	12.0
	8	2.7		26	4.9	IC602	1	2.2		11	6.0
	9	5.3		27	5.1		2	2.2		12	4.7
	10	5.3		28	GND		3	2.2		13	GND
	11	2.2		29	GND		4	GND		14	GND
	12	2.2		30	4.9		5	1.9		15	GND
	13	1.6		31	5.3		6	1.9		16	GND
	14	1.6		32	5.3		7	2.1		17	GND
	15	GND		33	5.3		8	5.3		18	GND
	16	0.4		35	5.3	IC603	1	7.7		19	GND
	17	GND		36	0.5		2	8.3		20	GND
	18	2.7		38	GND		3	8.4			

All Voltage are in V.
Pin numbers which are not described are not used.

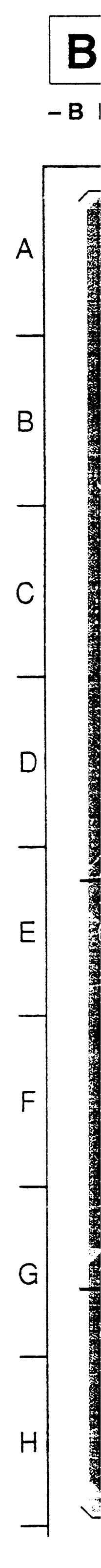
B (3/3) BOARD
TRANSISTOR VOLTAGE LIST

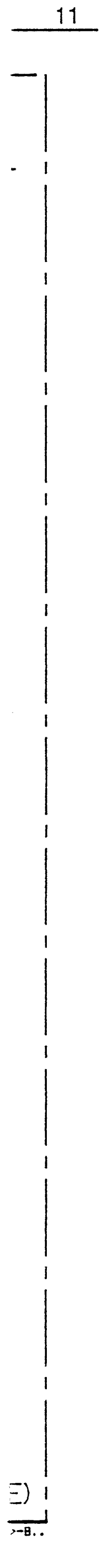
	B	C	E
Q601	4.7	12.0	4.2
Q603	1.3	8.3	0.7

All voltages are in V.

B BOARD

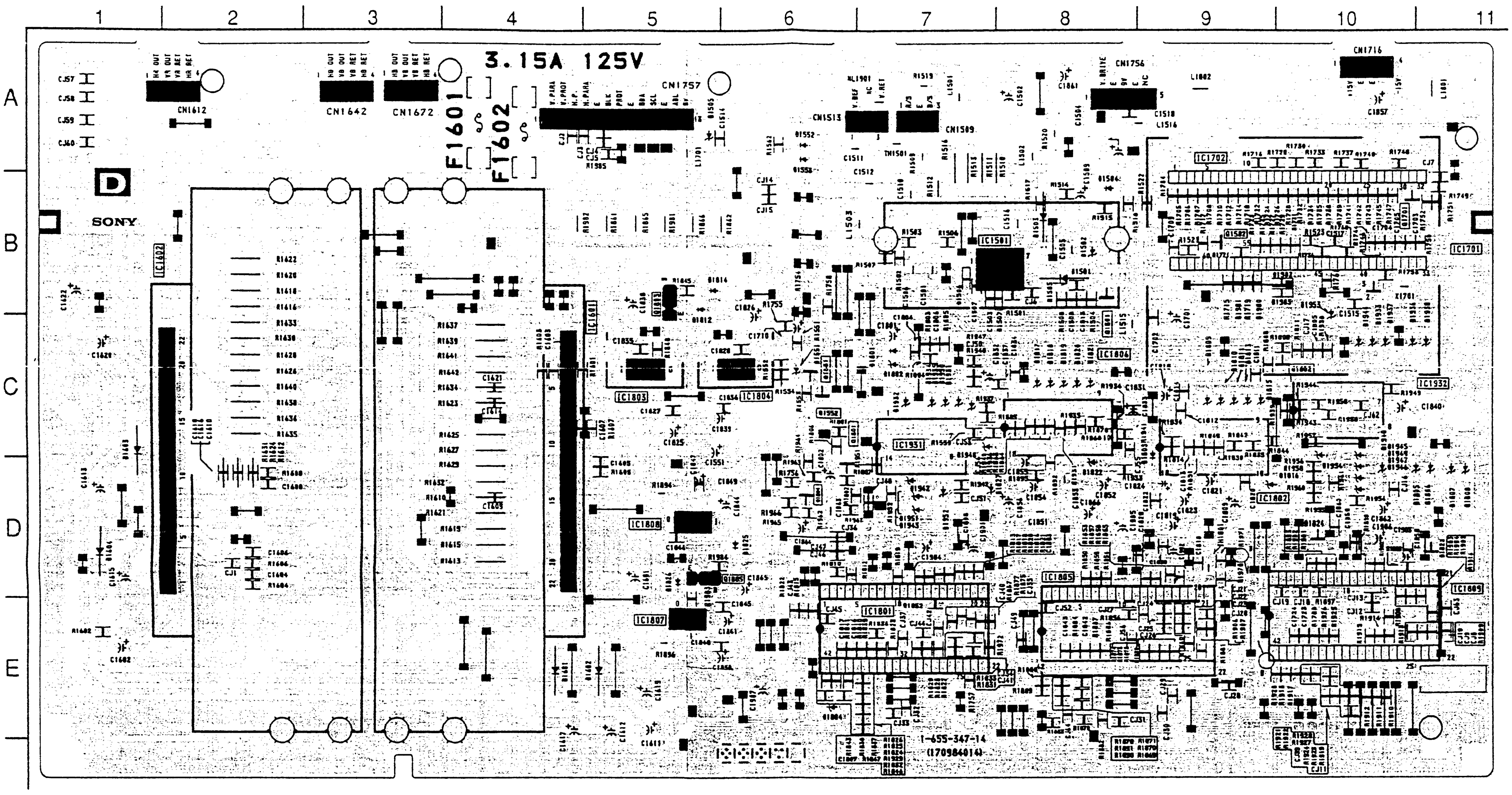
DIODE		*	Q11	F-3	②	Q232	D-6	②
D1	F-4	⑪	Q12	F-10	①	Q233	D-8	①
D2	F-4	⑪	Q13	G-4	②	Q234	D-6	②
D3	E-9	⑧	Q14	E-4	②	Q235	D-6	②
D4	G-10	⑧	Q15	E-4	②	Q236	F-8	①
D201	G-8	⑧	Q16	E-3	②	Q237	E-6	②
D202	G-8	⑧	Q17	G-4	②	Q238	E-8	①
D203	G-8	⑧	Q18	G-10	①	Q239	E-8	①
D204	G-8	⑧	Q19	F-10	①	Q240	D-6	②
D205	G-8	⑧	Q20	G-10	①	Q241	E-6	②
D206	F-6	⑨	Q22	G-10	①	Q242	D-8	①
D207	F-6	⑨	Q23	G-4	②	Q243	D-9	①
D208	G-6	⑨	Q24	G-4	②	Q244	E-8	①
D209	E-6	⑨	Q25	G-4	②	Q245	D-8	①
D210	E-6	⑨	Q26	G-10	①	Q246	E-5	②
D211	B-5	⑨	Q27	G-11	①	Q247	A-10	①
D212	B-9	⑧	Q28	G-11	①	Q248	A-11	①
D215	G-5	⑨	Q29	F-11	①	Q249	B-11	①
D217	F-7	⑧	Q30	G-10	①	Q250	A-12	①
D218	E-6	⑨	Q32	F-11	①	Q251	A-12	①
D220	E-6	⑨	Q33	E-11	①	Q252	D-8	①
D221	D-6	⑨	Q34	E-11	①	Q253	B-11	①
D222	A-10	⑧	Q35	E-3	②	Q254	D-9	①
D223	D-8	⑧	Q36	F-2	②	Q255	E-5	②
D224	C-1	⑨	Q37	F-2	②	Q256	B-11	①
D225	C-2	⑨	Q38	F-2	②	Q257	D-8	①
D226	D-4	⑨	Q41	G-11	①	Q258	D-4	②
D227	E-4	⑨	Q42	G-12	①	Q259	E-5	②
D602	D-10	⑧	Q43	G-8	①	Q260	C-3	②
D603	D-11	⑧	Q44	G-8	①	Q261	C-11	①
I C			Q45	G-8	①	Q262	E-5	②
IC1	G-4		Q46	E-2	②	Q263	A-11	①
IC2	G-9		Q47	E-9	①	Q264	C-2	②
IC3	F-4,F-9		Q48	E-9	①	Q265	A-11	①
IC4	G-11		Q49	E-9	①	Q266	A-11	①
IC5	E-4		Q52	G-8	①	Q267	B-11	①
IC6	F-2		Q201	B-8	①	Q268	B-11	①
IC7	F-2		Q202	G-8	①	Q269	C-12	①
IC8	G-2,G-11		Q203	G-6	②	Q270	B-2	②
IC10	F-3		Q204	G-6	②	Q271	B-2	②
IC201	B-6		Q205	G-6	②	Q272	B-11	①
IC202	G-6		Q206	G-8	①	Q273	B-12	①
IC203	A-6		Q207	G-6	②	Q274	B-12	①
IC204	A-8		Q208	G-7	①	Q275	B-12	①
IC205	C-9		Q209	G-8	①	Q276	C-8	①
IC206	F-6,F-8		Q210	G-8	①	Q277	C-9	①
IC207	B-5		Q211	G-7	①	Q278	D-9	①
IC208	D-5,D-9		Q212	G-6	②	Q279	B-9	①
IC209	B-3		Q213	G-7	①	Q280	D-4	②
IC210	D-5		Q214	F-6	③	Q281	E-4	②
IC211	E-5		Q215	D-7	①	Q282	D-4	②
IC212	B-2		Q216	D-8	①	Q286	C-2	②
IC213	B-10		Q217	D-6	②	Q287	C-2	②
IC214	D-4		Q218	E-7	①	Q301	B-9	①
IC601	D-2		Q219	D-7	①	Q302	A-11	①
IC602	E-2		Q220	D-6	②	Q303	A-11	①
IC603	E-3,E-10		Q221	E-6	②	Q304	C-10	①
TRANSISTOR		*	Q222	B-8	①	Q601	E-11	①
Q1	F-9	①	Q223	D-6	②	Q602	D-11	①
Q2	G-9	①	Q225	D-9	①	VARIABLE RESISTOR		
Q3	G-9	①	Q226	B-5	②			
Q6	F-8	①	Q227	D-8	①	RV1	F-2,F-12	
Q7	F-9	①	Q228	D-6	②	RV2	F-2,F-12	
Q8	F-10	①	Q229	D-6	②	RV601	D-3,D-10	
Q9	F-10	①	Q230	D-8	①			
Q10	F-4	②	Q231	D-8	①			


B
– B
A
B
C
D
E
F
G
H



D [RGB CONVERTER, REGI CONTROL]

- D BOARD -


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
3.15A 125V
F1601
F1602
CN1612
CN1642
CN1672
CN1757
CN1513
CN1589
CN1754
CN1716
IC1602
IC1702
IC1701
IC1581
IC1803
IC1804
IC1808
IC1807
IC1801
IC1805
IC1851
IC1802
IC1932
IC1605
SONY
1-655-347-14

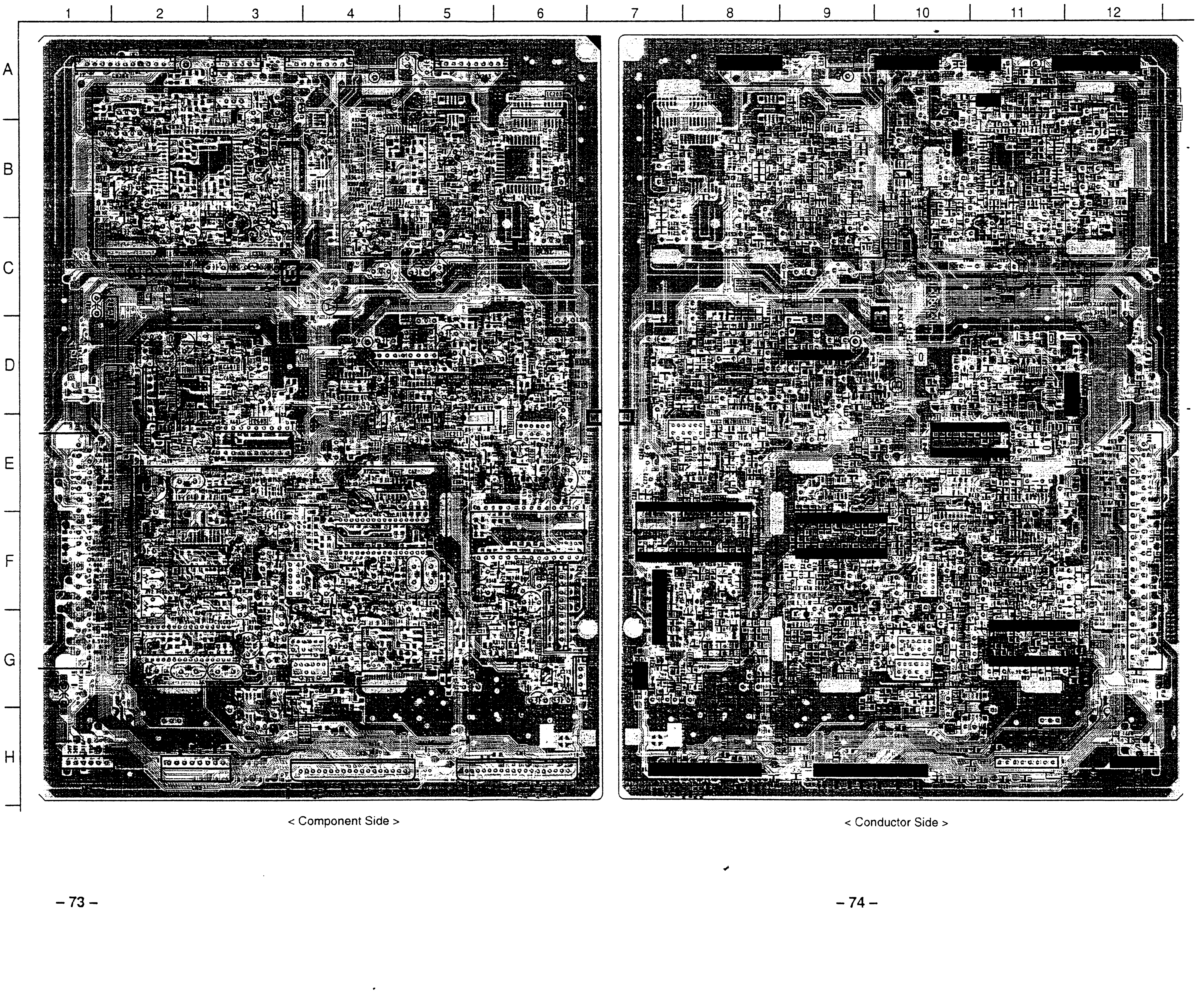
B (1/3) [2D COMB FILTER, MAIN/SUB CHROMA DECODER, PIP/EXT RGB SW, PIP A/D & D/A CONVERTER]

B (2/3) [AUDIO/TEXT PROCESSOR, SYSTEM CONTROL, RGB MATRIX]

B (3/3) [H/V DRIVE]

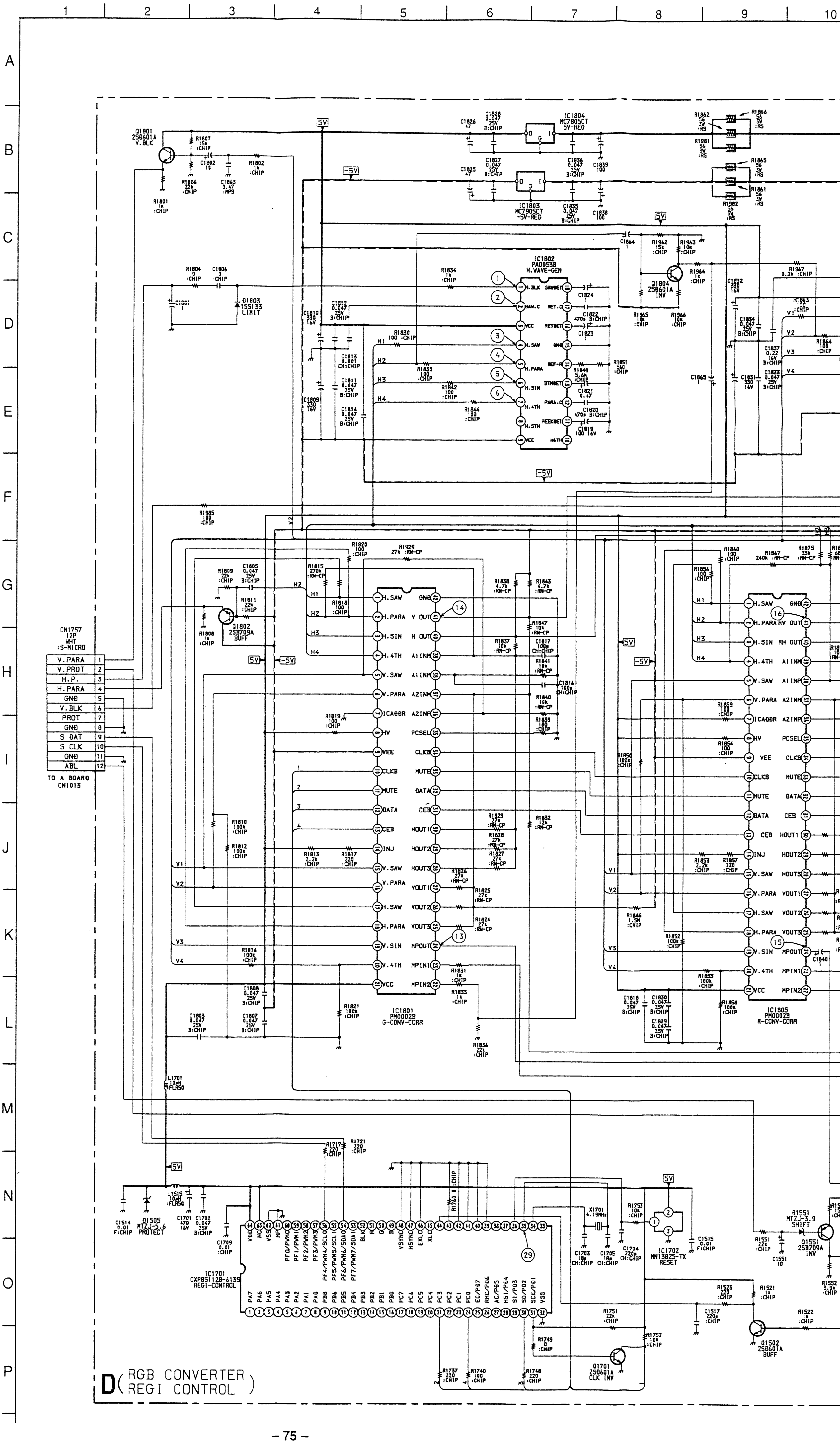
- B BOARD -

NOTE:
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

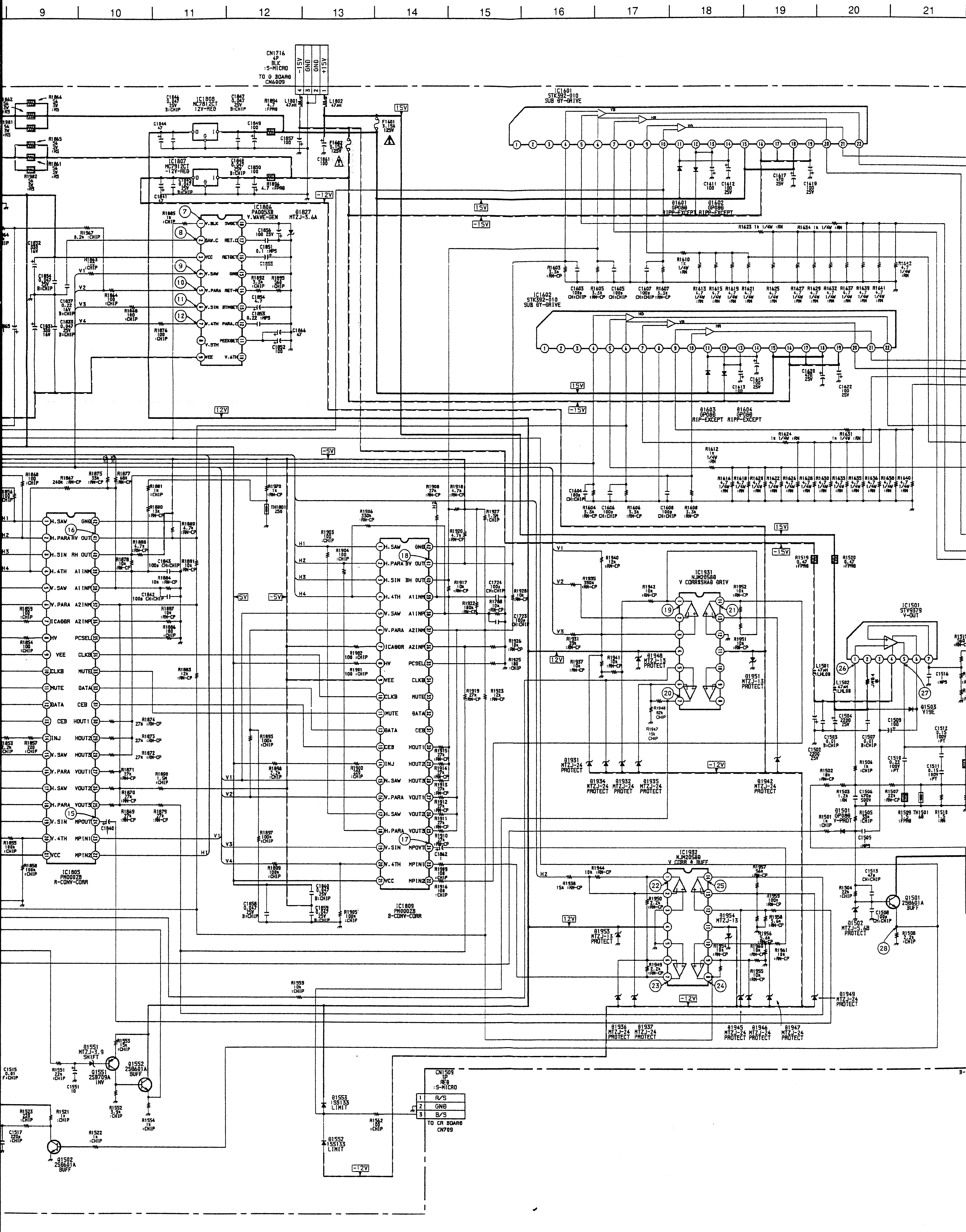

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H

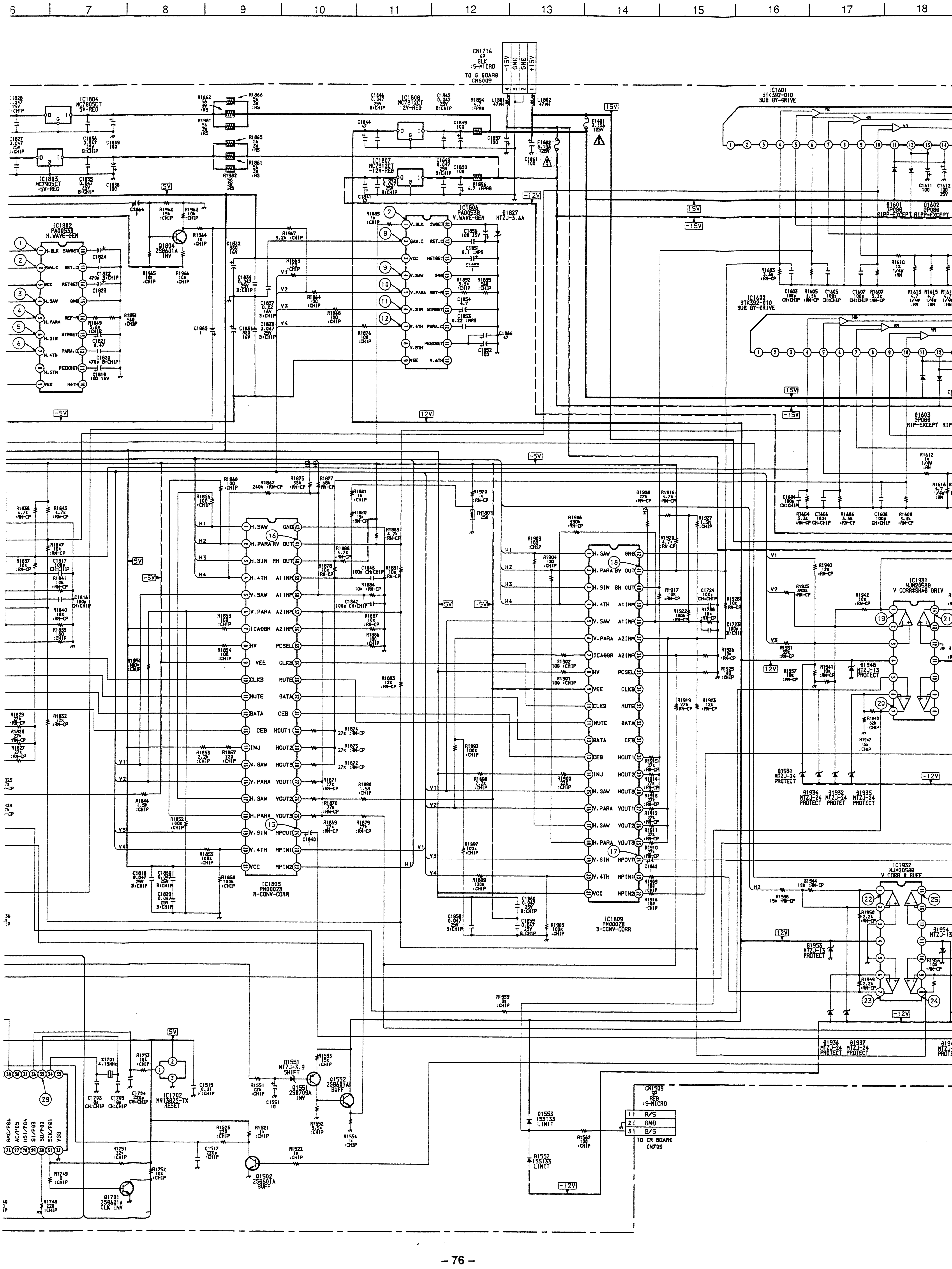
< Component Side >

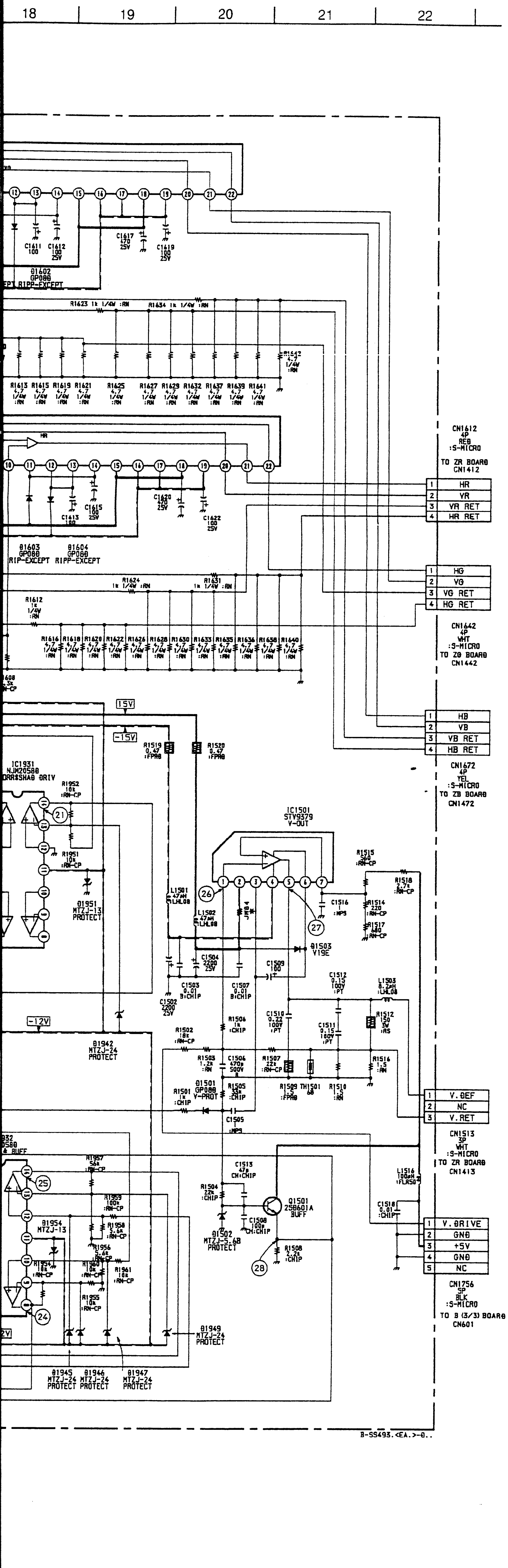
< Conductor Side >


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q1801 2SD601A V.BLK
IC1804 MC7805CT 5V-REG
IC1803 MC7905CT -5V-REG
IC1802 PA0053B H.WAVE-GEN
Q1804 2SB601A INV
D1803 1SS133 LIMIT
Q1802 2SB709A BUFF
CN1757 12P WHT :S-MICRO
V.PARA
V.PROT
H.P.
H.PARA
GND
V.BLK
PROT
GND
S DAT
S CLK
GND
ABL
TO A BOARD CN1013
IC1801 PM0002B G-CONV-CORR
IC1805 PM0002B R-CONV-CORR
IC1701 CXP85112B-613S REGI-CONTROL
IC1702 MN1382S-TX RESET
X1701 4.19MHz
D1505 MTZJ-5.6 PROTECT
D1551 MTZJ-3.9 SHIFT
Q1551 2SB709A INV
Q1502 2SB601A BUFF
Q1701 2SB601A CLK INV
L1701 10μH :FLR50
L1515 10μH :FLR50
5V
-5V
H.SAW
H.PARA
H.SIN
H.4TH
V.SAW
V.PARA
ICADDR
HV
VEE
CLKB
MUTE
DATA
CEB
INJ
VCC
GND
V OUT
H OUT
A1INM
A1INP
A2INM
A2INP
PCSEL
CLKB
HOUT1
HOUT2
HOUT3
VOUT1
VOUT2
VOUT3
HPOUT
HPIN1
HPIN2
RH OUT
V1
V2
V3
V4
H1
H2
H3
H4

D (RGB CONVERTER REGI CONTROL)


9
10
11
12
13
14
15
16
17
18
19
20
21
CN1716 4P BLK :S-MICRO TO G BOARD CN6009
-15V
GND
GND
+15V
IC1808 MC7812CT 12V-REG
IC1807 MC7912CT -12V-REG
IC1806 PA0053B V.WAVE-GEN
D1827 MTZJ-3.6A
F1601 3.15A 125V
F1602 3.15A 125V
IC1601 STK392-010 SUB DY-DRIVE
D1601 GP08D RIPP-EXCEPT
D1602 GP08D RIPP-EXCEPT
IC1602 STK392-010 SUB DY-DRIVE
D1603 GP08D RIP-EXCEPT
D1604 GP08D RIPP-EXCEPT
IC1805 PM0002B R-CONV-CORR
IC1809 PM0002B B-CONV-CORR
IC1931 NJM2058D V CORR&SHAD DRIV
IC1932 NJM2058D V CORR & BUFF
IC1501 STV9379 V-OUT
Q1501 2SB601A BUFF
D1502 MTZJ-5.6B PROTECT
D1503 V19E
D1501 GP08D V-PROT
D1931 MTZJ-24 PROTECT
D1934 MTZJ-24 PROTECT
D1932 MTZJ-24 PROTET
D1935 MTZJ-24 PROTECT
D1942 MTZJ-24 PROTECT
D1948 MTZJ-13 PROTECT
D1951 MTZJ-13 PROTECT
D1953 MTZJ-13 PROTECT
D1954 MTZJ-13
D1936 MTZJ-24 PROTECT
D1937 MTZJ-24 PROTECT
D1945 MTZJ-24 PROTECT
D1946 MTZJ-24 PROTECT
D1947 MTZJ-24 PROTECT
D1949 MTZJ-24 PROTECT
D1551 MTZJ-3.9 SHIFT
Q1551 2SB709A INV
Q1552 2SB601A BUFF
Q1502 2SB601A BUFF
D1553 1SS133 LIMIT
D1552 1SS133 LIMIT
CN1509 3P RED :S-MICRO
R/S
GND
B/S
TO CR BOARD CN709
15V
-15V
12V
-12V
5V
-5V


6
7
8
9
10
11
12
13
14
15
16
17
18
CN1716 4P BLK :S-MICRO TO G BOARD CN6009
-15V
GND
GND
+15V
IC1804 MC7805CT 5V-REG
IC1803 MC7905CT -5V-REG
IC1808 MC7812CT 12V-REG
IC1807 MC7912CT -12V-REG
F1601 3.15A 125V
F1602 3.15A 125V
L1801 47μH
L1802 47μH
IC1601 STK392-010 SUB BY-DRIVE
IC1602 STK392-010 SUB BY-DRIVE
IC1802 PA0053B H.WAVE-GEN
IC1806 PA0053B V.WAVE-GEN
D1827 MTZJ-3.6A
Q1804 2SB601A INV
D1601 GP08D RIPP-EXCEPT
D1602 GP08D RIPP-EXCEPT
D1603 GP08D RIP-EXCEPT RIP
IC1805 PM0002B R-CONV-CORR
IC1809 PM0002B B-CONV-CORR
IC1931 NJM2058D V CORR&SHAD DRIV
IC1932 NJM2058D V CORR & BUFF
D1931 MTZJ-24 PROTECT
D1934 MTZJ-24 PROTECT
D1932 MTZJ-24 PROTET
D1935 MTZJ-24 PROTECT
D1948 MTZJ-13 PROTECT
D1953 MTZJ-13 PROTECT
D1954 MTZJ-13
D1936 MTZJ-24 PROTECT
D1937 MTZJ-24 PROTECT
X1701 4.19MHz
IC1702 MN13825-TX RESET
Q1701 2SB601A CLK INV
D1551 MTZJ-3.9 SHIFT
Q1551 2SB709A INV
Q1552 2SB601A BUFF
Q1502 2SB601A BUFF
D1553 1SS133 LIMIT
D1552 1SS133 LIMIT
CN1509 3P RED :S-MICRO TO CR BOARD CN709
R/S
GND
B/S
RMC/P04
AC/P05
HS1/P03
S1/P03
S0/P02
SCK/P01
VSS
5V
-5V
12V
-12V
15V
-15V


18
19
20
21
22
C1611 100
C1612 100 25V
C1617 470 25V
C1619 100 25V
Q1602 GP08B
RIPP-EXCEPT
R1623 1k 1/4W :RN
R1634 1k 1/4W :RN
R1642 4.7 1/4W :RN
R1613 R1615 R1619 R1621
R1625
R1627 R1629 R1632 R1637 R1639 R1641
HR
C1613 100
C1615 100 25V
C1620 470 25V
C1622 100 25V
Q1603 GP08B RIP-EXCEPT
Q1604 GP08B RIPP-EXCEPT
CN1612 4P RED :S-MICRO
TO ZR BOARD CN1412
1 HR
2 VR
3 VR RET
4 HR RET
R1624 1k 1/4W :RN
R1631 1k 1/4W :RN
R1612 1k 1/4W :RN
1 HG
2 VG
3 VG RET
4 HG RET
CN1642 4P WHT :S-MICRO
TO ZG BOARD CN1442
15V
-15V
R1519 0.47 :FPRB
R1520 0.47 :FPRB
1 HB
2 VB
3 VB RET
4 HB RET
CN1672 4P YEL :S-MICRO
TO ZB BOARD CN1472
IC1931 NJM2058B HORR&SHAB DRIV
R1952 10k :RN-CP
R1951 10k :RN-CP
Q1951 MTZJ-13 PROTECT
IC1501 STV9379 V-OUT
L1501 47μH LHL08
L1502 47μH LHL08
C1516 :NPS
R1515 390 :RN-CP
R1518 2.7k :RN-CP
R1514 220 :RN-CP
R1517 680 :RN-CP
Q1503 V19E
C1503 0.01 B:CHIP
C1502 2200 25V
C1504 2200 25V
C1507 0.01 B:CHIP
C1509 100
C1510 0.22 100V :PT
C1511 0.15 160V :PT
C1512 0.15 100V :PT
L1503 8.2mH :LHL08
R1512 150 3W :RS
-12V
Q1942 MTZJ-24 PROTECT
R1502 18k :RN-CP
R1503 1.2k :RN
R1506 1k :CHIP
C1506 470p 500V
R1507 22k :RN-CP
R1516 1.5 :RN
Q1501 GP08B Y-PROT
R1501 1k :CHIP
R1505 33k :CHIP
R1509 1.5 :FPRB
TH1501 68
R1510 1.5 :RN
C1505 :NPS
1 V.REF
2 NC
3 V.RET
CN1513 3P WHT :S-MICRO
TO ZR BOARD CN1413
L1516 100μH :FLR50
C1518 0.01 :CHIP
R1957 56k :RN-CP
R1959 100k :RN-CP
R1958 5.6k :RN-CP
R1956 5.6k
R1961 10k :RN-CP
R1955 10k :RN-CP
Q1954 MTZJ-13
R1954 18k :RN-CP
C1513 47p CH:CHIP
R1504 22k :CHIP
C1508 100p CH:CHIP
Q1501 2SB601A BUFF
Q1502 MTZJ-5.6B PROTECT
R1508 2.2k :CHIP
1 V.DRIVE
2 GND
3 +5V
4 GND
5 NC
CN1756 5P BLK :S-MICRO
TO B (3/3) BOARD CN601
Q1949 MTZJ-24 PROTECT
Q1945 MTZJ-24 PROTECT
Q1946 MTZJ-24 PROTECT
Q1947 MTZJ-24 PROTECT
B-SS493.<EA.>-0..

D BOARD IC VOLTAGE LIST

IC1501	1	1.2		62	GND		O	-5.2		G	GND
	2	14.8		63	5.3	IC1804	I	11.9		O	12.7
	3	-13.3		64	5.3		G	GND	IC1809	1	0
	4	-14.7	IC1702	1	5.4		O	5.4		2	-0.9
	5	0.5		2	5.3	IC1805	1	0		3	0
	6	14.8		3	GND		2	-0.8		4	-1.1
	7	1.2	IC1801	1	0		3	0		5	0
IC1601	4	0		2	-0.9		4	-1.2		6	-0.4
	5	0		3	0		5	0		7	-5.2
	6	0.2		4	-1.2		6	-0.4		8	5.4
	7	0.2		5	0		7	5.4		9	-5.2
	8	0		6	-0.4		8	5.4		10	5.2
	9	0		7	0		9	-5.2		11	5.3
	10	0		8	5.4		10	5.2		12	0.2
	11	14.2		9	-5.2		11	5.4		13	5.2
	12	-14.1		10	5.2		12	0		14	-2.2
	13	-14.1		11	5.4		13	5.2		15	0
	14	14.2		12	0.2		14	-2.1		16	-0.9
	15	14.8		13	5.2		15	0		17	0
	16	-14.7		14	-2.1		16	-0.8		18	-0.8
	17	-14.7		15	0		17	0		19	0
	18	14.8		16	-0.9		18	-0.8		20	-0.5
	19	-14.7		17	0		19	0		21	5.4
	20	0.4		18	-0.9		20	-0.5		22	0
	21	0.2		19	0		21	5.4		23	-0.6
	22	0		20	-0.5		22	0		24	0
IC1602	4	0.2		21	5.3		23	0		25	0.4
	5	0		22	0		24	0		26	0
	6	0.3		23	1.0		25	-0.4		27	0
	7	0.3		24	0		26	0		28	0
	8	0		25	0		27	0		29	-0.2
	9	-0.2		26	0		28	0		30	1.1
	10	-0.1		27	0		29	0		35	0
	11	14.2		28	0		30	-0.5		36	0
	12	-14.1		29	0		31	5.2		37	0
	13	-14.1		30	0		32	0		38	0
	14	14.2		31	5.2		33	5.4		39	0
	15	14.8		32	0.2		34	5.2		40	0.3
	16	-14.8		33	5.4		35	0		41	0
	17	-14.8		34	5.2		36	0		42	GND
	18	14.8		35	0		37	0	IC1931	1	0
	19	-14.7		36	0		38	0		2	0
	20	0.4		37	0		39	0		3	0
	21	-0.2		38	0		40	-0.2		4	12.7
	22	0.2		39	0		41	0.3		5	0
IC1701	21	5.4		40	0.2		42	GND		6	0
	24	5.2		41	0	IC1806	1	0.2		7	-0.2
	30	0.2		42	GND		2	1.4		11	-12.7
	31	0.2	IC1802	1	0.6		3	5.3		12	GND
	32	GND		2	1.4		4	0		13	0
	34	2.7		3	5.3		5	-0.9		14	0
	35	2.4		4	0		6	0	IC1932	1	0.7
	36	5.4		5	-0.9		7	-1.1		2	0
	39	0		6	0		8	0		3	GND
	40	0		7	-1.1		9	-5.2		4	12.7
	41	0		8	0		10	0.2		5	0
	42	0		9	-5.2		11	0.6		6	0
	43	0		10	0.3		12	-0.9		7	-0.6
	44	4.7		11	0.6		13	0.3		8	0
	46	0		12	-0.9		14	1.3		9	0
	47	0		13	0.5		15	GND		10	0
	48	0		14	1.3		16	-1.7		11	-12.7
	54	4.9		15	GND		17	1.4		12	0
	56	4.9		16	-0.7		18	-1.7		13	0
	58	0		17	1.4	IC1807	I	-14.6		14	0
	59	0		18	-1.6		G	GND			
	60	0	IC1803	I	-11.4		O	-12.7			
	61	GND		G	GND	IC1808	I	14.7			

All Voltage are in V.
Pin numbers which are not described are not used.

D BOARD TRANSISTOR VOLTAGE LIST

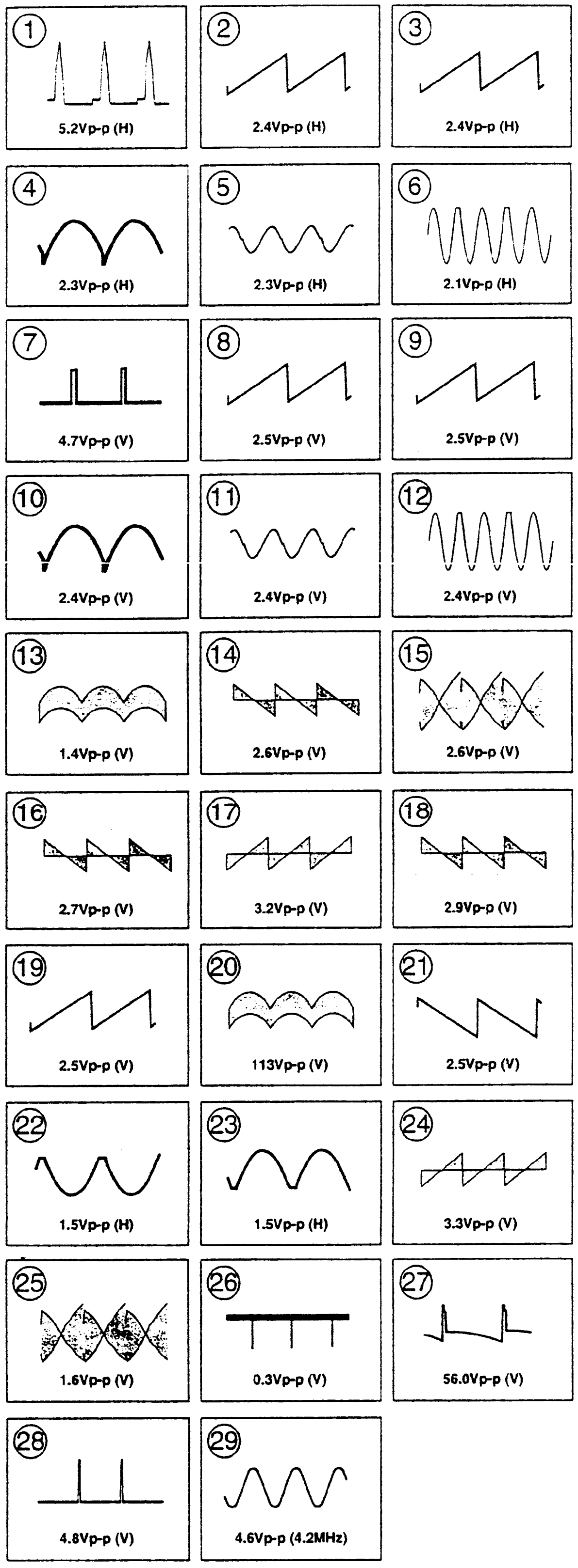
	B	C	E
Q1501	-0.5	5.2	0.2
Q1502	0	5.2	GND
Q1551	5.9	1.6	6.6
Q1552	1.6	12.7	1.0
Q1701	0	5.2	GND
Q1801	3.4	5.4	2.7
Q1802	-2.5	-5.2	-1.9
Q1803	0	0	GND
Q1804	-3.1	-1.1	-3.7
Q1805	0	0	GND

All Voltage are in V.

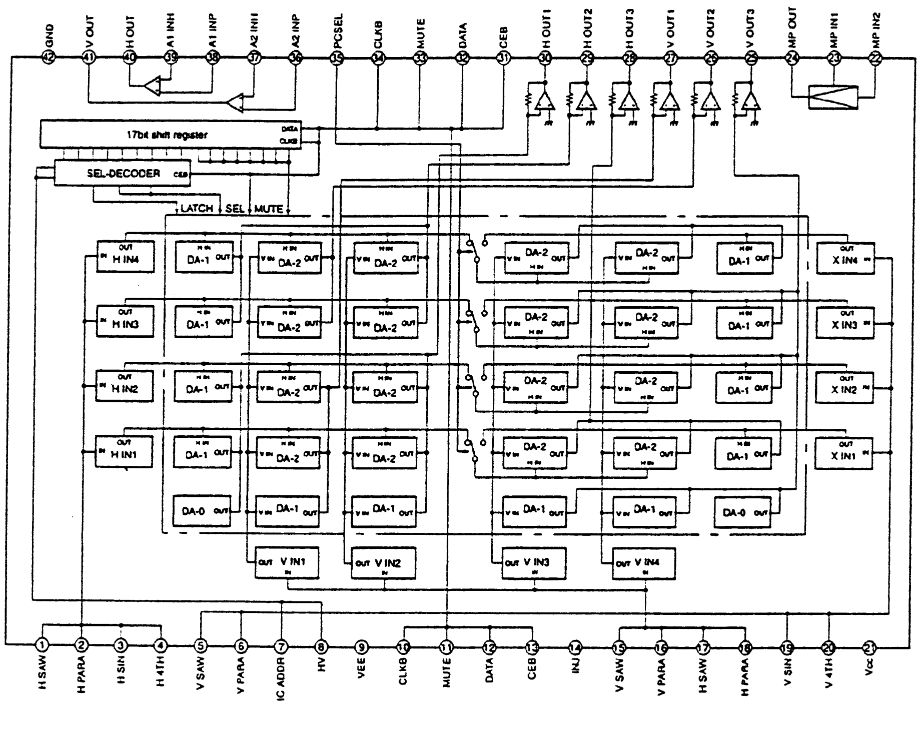
D BOARD ∗MARK LIST

	KP-E41MN11	KP-E53MN11
JW83	1.2K	JW (7.5)

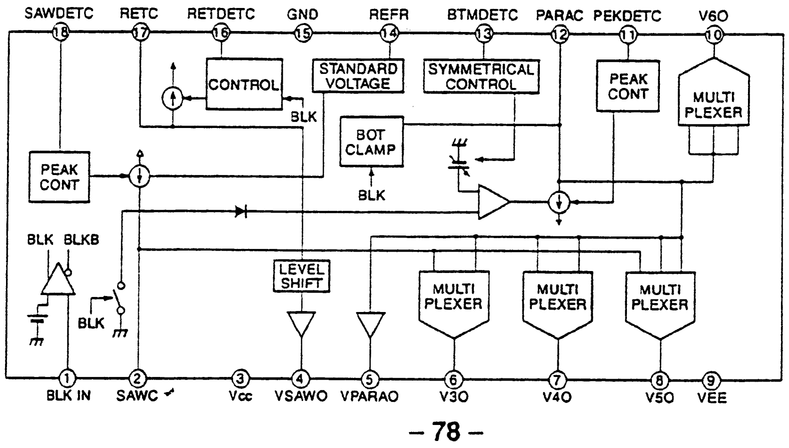
• D BOARD WAVEFORMS


① 5.2Vp-p (H)
② 2.4Vp-p (H)
③ 2.4Vp-p (H)
④ 2.3Vp-p (H)
⑤ 2.3Vp-p (H)
⑥ 2.1Vp-p (H)
⑦ 4.7Vp-p (V)
⑧ 2.5Vp-p (V)
⑨ 2.5Vp-p (V)
⑩ 2.4Vp-p (V)
⑪ 2.4Vp-p (V)
⑫ 2.4Vp-p (V)
⑬ 1.4Vp-p (V)
⑭ 2.6Vp-p (V)
⑮ 2.6Vp-p (V)
⑯ 2.7Vp-p (V)
⑰ 3.2Vp-p (V)
⑱ 2.9Vp-p (V)
⑲ 2.5Vp-p (V)
⑳ 113Vp-p (V)
㉑ 2.5Vp-p (V)
㉒ 1.5Vp-p (H)
㉓ 1.5Vp-p (H)
㉔ 3.3Vp-p (V)
㉕ 1.6Vp-p (V)
㉖ 0.3Vp-p (V)
㉗ 56.0Vp-p (V)
㉘ 4.8Vp-p (V)
㉙ 4.6Vp-p (4.2MHz)

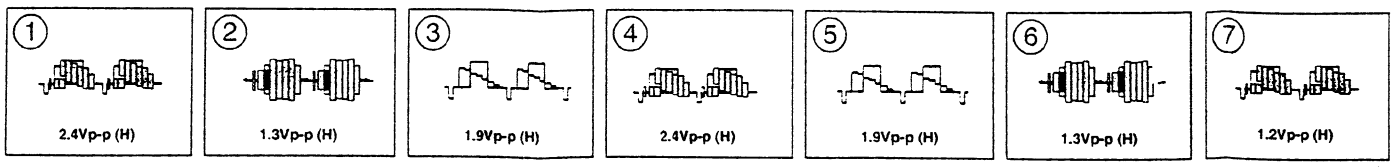
D BOARD : IC1801, 1805, 1809 PM0002B

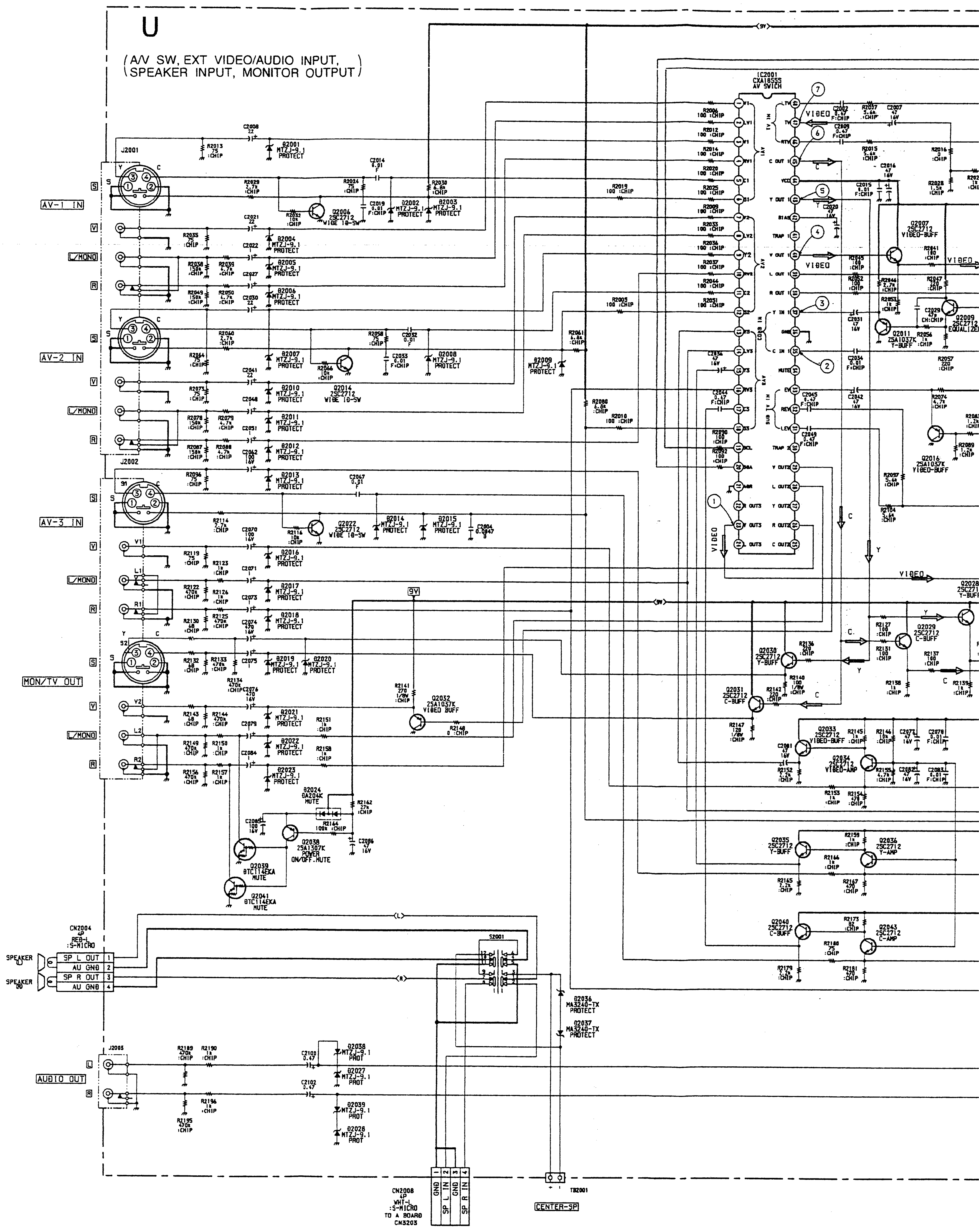

GND
V OUT
H OUT
A1 INH
A1 INP
A2 INH
A2 INP
PCSEL
CLKB
MUTE
DATA
CEB
H OUT1
H OUT2
H OUT3
V OUT1
V OUT2
V OUT3
MP OUT
MP IN1
MP IN2
17bit shift register
DATA
CLKB
SEL-DECODER
CEB
LATCH
SEL
MUTE
H IN4
H IN3
H IN2
H IN1
DA-0
DA-1
DA-2
X IN4
X IN3
X IN2
X IN1
V IN1
V IN2
V IN3
V IN4
H SAW
H PARA
H SIN
H 4TH
V SAW
V PARA
IC ADDR
HV
VEE
CLKB
MUTE
DATA
CEB
INJ
V SAW
V PARA
H SAW
H PARA
V SIN
V 4TH
Vcc

D BOARD : IC1802, 1806 PA0053B


SAWDETC
RETC
RETDETC
GND
REFR
BTMDETC
PARAC
PEKDETC
V6O
CONTROL
STANDARD VOLTAGE
SYMMETRICAL CONTROL
PEAK CONT
MULTI PLEXER
BLK
BOT CLAMP
PEAK CONT
BLK BLKB
LEVEL SHIFT
MULTI PLEXER
MULTI PLEXER
MULTI PLEXER
BLK IN
SAWC
Vcc
VSAWO
VPARAO
V3O
V4O
V5O
VEE

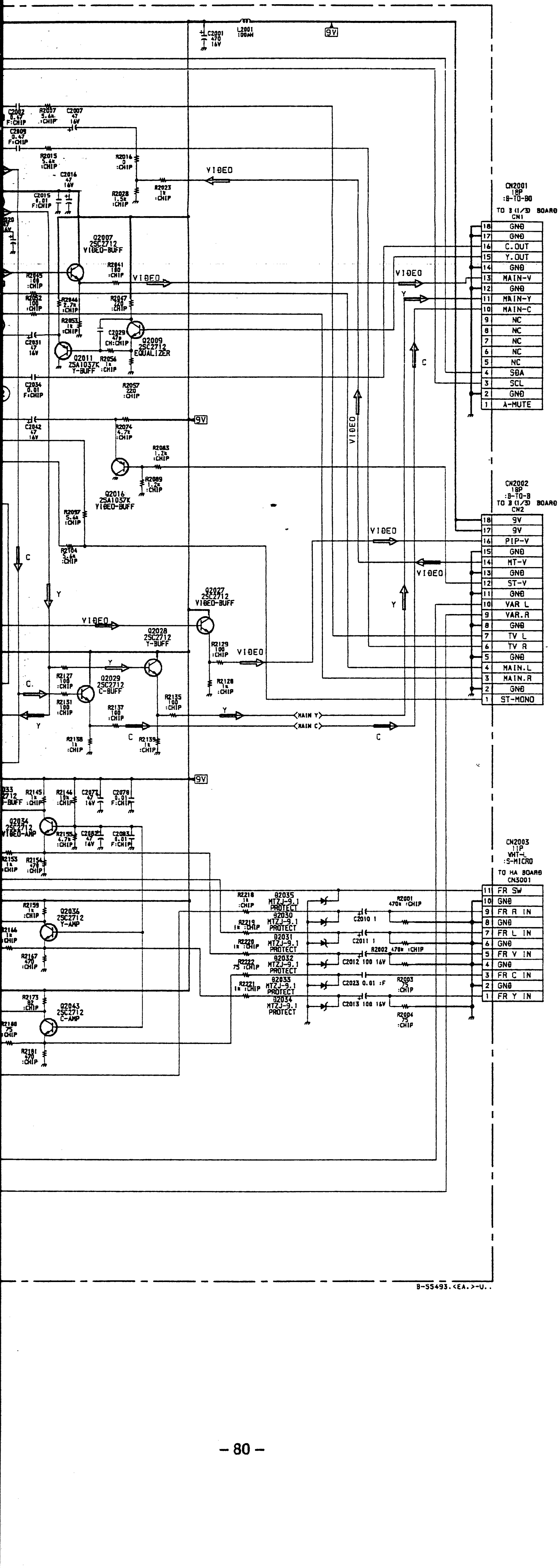
• U BOARD WAVEFORMS


①
2.4Vp-p (H)
②
1.3Vp-p (H)
③
1.9Vp-p (H)
④
2.4Vp-p (H)
⑤
1.9Vp-p (H)
⑥
1.3Vp-p (H)
⑦
1.2Vp-p (H)


U
(A/V SW, EXT VIDEO/AUDIO INPUT, SPEAKER INPUT, MONITOR OUTPUT)
AV-1 IN
AV-2 IN
AV-3 IN
MON/TV OUT
AUDIO OUT
SPEAKER
CN2004 4P RED-L :S-MICRO
SP L OUT
AU GND
SP R OUT
AU GND
J2001
J2002
J2005
IC2001 CXA1855S AV SWICH
S2001
Q2006 2SC2712 VIDE IO-SW
Q2014 2SC2712 VIDE IO-SW
Q2022 2SC2712 VIDE IO-SW
Q2032 2SA1037K VIDEO BUFF
Q2038 2SA1037K POWER ON/OFF.MUTE
Q2039 DTC114EKA MUTE
Q2041 DTC114EKA MUTE
Q2024 DA204K MUTE
Q2007 2SC2712 VIDEO-BUFF
Q2009 2SC2712 EQUALIZER
Q2011 2SA1037K Y-BUFF
Q2016 2SA1037K VIDEO-BUFF
Q2030 2SC2712 Y-BUFF
Q2031 2SC2712 C-BUFF
Q2029 2SC2712 C-BUFF
Q2033 2SC2712 VIDEO-BUFF
Q2034 2SC2712 VIDEO-AMP
Q2035 2SC2712 Y-BUFF
Q2036 2SC2712 Y-AMP
Q2040 2SC2712 C-BUFF
Q2043 2SC2712 C-AMP
Q2036 MA3240-TX PROTECT
Q2037 MA3240-TX PROTECT
CN2008 4P WHT-L :S-MICRO TO A BOARD CN3203
GND
SP L IN
GND
SP R IN
TB2001
CENTER-SP
VIDEO
9V
5V

Schematic diagrams
← D board

Schematic diagrams
U board →


10
11
12
13
14
C2001 470 16V
L2001 100μH
9V
VIDEO
Q2007 2SC2712 VIDEO-BUFF
Q2009 2SC2712 EQUALIZER
Q2011 2SA1037K Y-BUFF
Q2016 2SA1037K VIDEO-BUFF
Q2027 2SC2712 VIDEO-BUFF
Q2028 2SC2712 Y-BUFF
Q2029 2SC2712 C-BUFF
Q2036 2SC2712 Y-AMP
Q2043 2SC2712 C-AMP
C
Y
<MAIN Y>
<MAIN C>
CN2001 18P :B-TO-BD
TO B (1/3) BOARD CN1
18 GND
17 GND
16 C.OUT
15 Y.OUT
14 GND
13 MAIN-V
12 GND
11 MAIN-Y
10 MAIN-C
9 NC
8 NC
7 NC
6 NC
5 NC
4 SDA
3 SCL
2 GND
1 A-MUTE
CN2002 18P :B-TO-B
TO B (1/3) BOARD CN2
18 9V
17 9V
16 PIP-V
15 GND
14 MT-V
13 GND
12 ST-V
11 GND
10 VAR L
9 VAR.R
8 GND
7 TV L
6 TV R
5 GND
4 MAIN.L
3 MAIN.R
2 GND
1 ST-MONO
CN2003 11P VH-L :S-MICRO
TO HA BOARD CN3001
11 FR SW
10 GND
9 FR R IN
8 GND
7 FR L IN
6 GND
5 FR V IN
4 GND
3 FR C IN
2 GND
1 FR Y IN
D2035 MTZJ-9.1 PROTECT
D2030 MTZJ-9.1 PROTECT
D2031 MTZJ-9.1 PROTECT
D2032 MTZJ-9.1 PROTECT
D2033 MTZJ-9.1 PROTECT
D2034 MTZJ-9.1 PROTECT
8-55493.<EA.>-U..

U BOARD IC VOLTAGE LIST

IC2001	1	3.9	15	3.8	33	3.8
	2	3.9	16	3.8	35	3.8
	3	3.9	17	3.8	36	GND
	4	3.9	18	8.0	37	3.8
	5	3.9	19	4.5	38	3.8
	6	8.0	20	4.5	39	3.8
	7	3.8	21	GND	40	3.8
	8	3.8	23	3.8	42	3.8
	9	3.8	26	3.8	43	3.8
	10	3.8	28	3.8	44	9.4
	11	3.8	29	3.8	45	3.8
	12	8.0	30	3.8	46	3.8
	13	3.8	31	3.8	47	3.8
	14	3.8	32	3.8	48	3.8

All Voltage are in V.

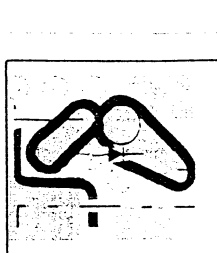
U BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q2006	0	8.0	GND
Q2007	3.8	9.4	3.1
Q2009	3.8	5.3	3.1
Q2011	3.1	GND	3.7
Q2014	0	8.0	GND
Q2016	1.8	GND	2.5
Q2022	0	8.0	GND
Q2027	3.8	9.4	3.1
Q2028	3.8	9.4	3.1
Q2029	3.8	9.4	3.1
Q2030	3.8	9.4	3.1
Q2031	3.8	9.4	3.1
Q2032	3.8	GND	4.4
Q2033	4.5	9.4	3.9
Q2034	2.6	4.5	1.9
Q2035	4.5	9.4	3.9
Q2036	2.6	4.5	1.9
Q2038	7.9	0	8.3
Q2039	0	0	GND
Q2040	4.5	9.4	3.9
Q2041	0	0	GND
Q2043	2.6	4.5	1.9

All Voltage are in V.

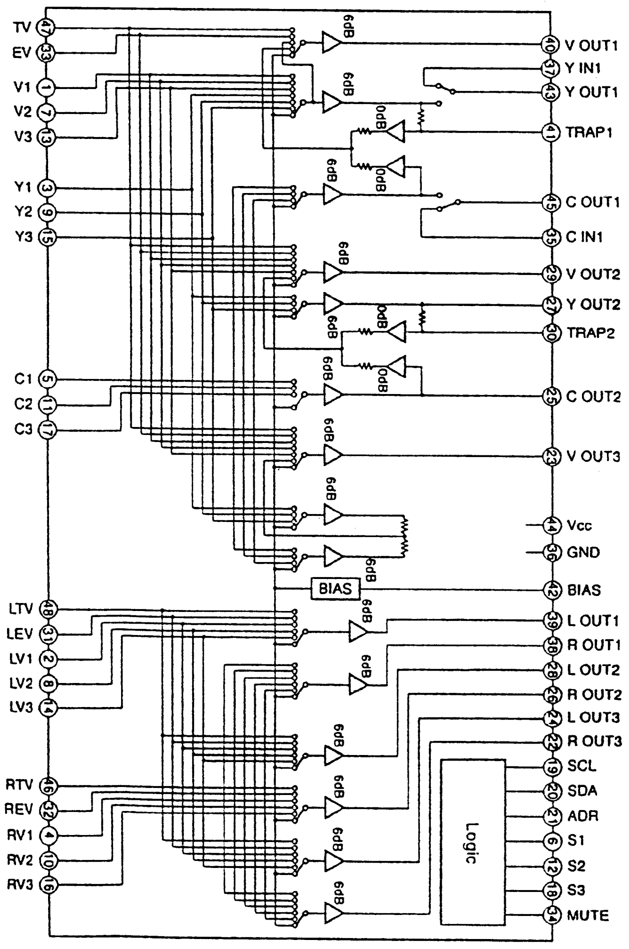
E BOARD

DIODE		*			
D801	C-7	-	D926	D-2	③
D802	C-7	③	D927	B-2	④
D803	D-5	-	D929	B-4	④
D804	A-10	-	**I C**		
D805	D-10	-	IC901	D-3	
D806	B-1	-	IC902	C-2	
D807	D-7	-	IC903	B-3	
D808	F-8	-	IC904	D-2	
D809	A-1	-	IC905	F-4	
D810	F-10	-	IC906	F-4	
D812	E-2	③	**TRANSISTOR**		*
D814	D-5	-	Q801	E-5	-
D816	D-4	③	Q802	B-7	-
D817	E-1	③	Q803	C-7	-
D818	E-1	③	Q806	E-9	-
D819	E-3	④	Q807	F-3	①
D901	C-2	③	Q808	F-7	-
D904	B-2	③	Q809	E-2	-
D905	D-1	③	Q810	D-4	-
D907	B-1	③	Q811	F-1	-
D908	C-2	④	Q813	E-1	①
D909	B-7	-	Q901	C-3	①
D910	C-2	-	Q902	C-3	-
D911	C-2	④	Q903	C-3	-
D912	C-1	④	Q904	D-3	①
D913	B-3	③	Q905	D-3	①
D914	B-3	③	Q906	B-2	①
D915	B-4	③	Q907	D-3	-
D916	A-3	④	Q908	B-1	①
D917	C-3	③	Q909	D-1	①
D918	B-4	③	Q910	A-4	①
D919	C-1	④	Q911	A-4	①
D920	A-5	-	Q912	A-2	①
D921	G-4	④	Q913	F-4	-
D922	F-4	③	Q914	C-2	①
D923	G-4	③	Q915	D-2	①
D924	D-3	③	Q916	B-4	①
			Q917	B-4	①



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

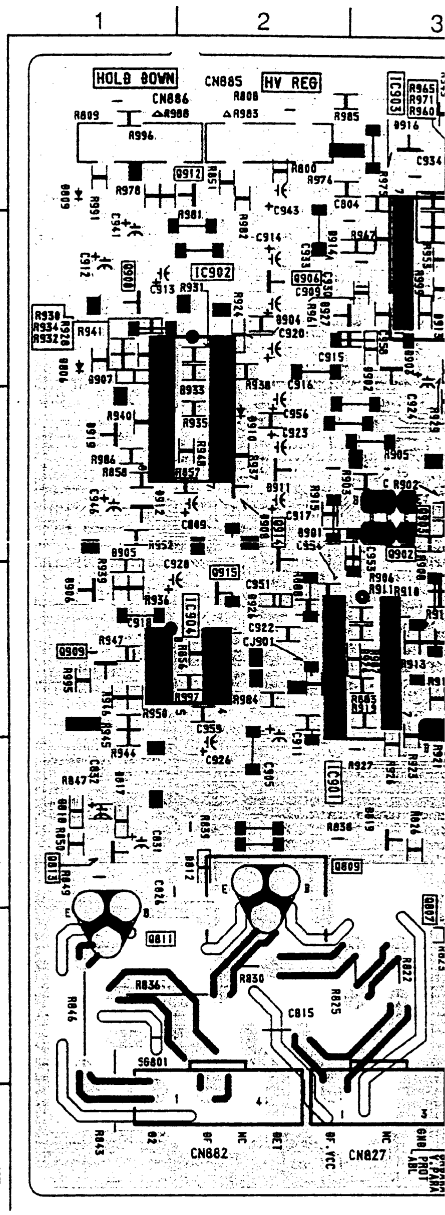
U BOARD : IC2001 CXA1855S


TV
EV
V1
V2
V3
Y1
Y2
Y3
C1
C2
C3
LTV
LEV
LV1
LV2
LV3
RTV
REV
RV1
RV2
RV3
V OUT1
Y IN1
Y OUT1
TRAP1
C OUT1
C IN1
V OUT2
Y OUT2
TRAP2
C OUT2
V OUT3
Vcc
GND
BIAS
L OUT1
R OUT1
L OUT2
R OUT2
L OUT3
R OUT3
SCL
SDA
ADR
S1
S2
S3
MUTE
BIAS
Logic
6dB
0dB

U BOARD

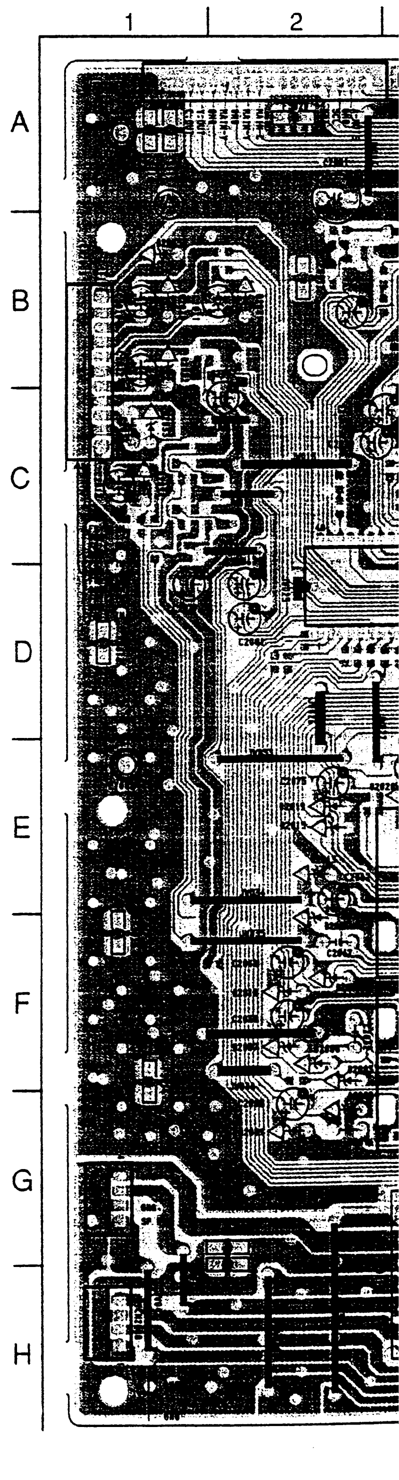
DIODE		*
D2001	G-2,G-9	-
D2002	G-2,G-9	-
D2003	F-2,G-9	-
D2004	G-3,G-8	-
D2005	G-4,G-7	-
D2006	G-5,G-7	-
D2007	F-2,F-9	-
D2008	F-2,F-9	-
D2009	F-2,F-9	-
D2010	F-2,F-9	-
D2011	E-3,E-8	-
D2012	G-5,G-6	-
D2013	E-2,E-9	-
D2014	F-2,F-9	-
D2015	E-2,E-9	-
D2016	E-4,E-8	-
D2017	E-4,E-7	-
D2018	E-4,E-7	-
D2019	E-2,E-9	-
D2020	E-3,E-9	-
D2021	E-3,E-8	-
D2022	E-4,E-7	-
D2023	C-5,C-6	-
D2024	D-7	⑥
D2027	G-5,G-6	-
D2028	H-5,H-6	-
D2030	B-1,B-10	-
D2031	B-2,B-10	-
D2032	B-1,B-10	-
D2033	C-1,C-10	-
D2034	C-1,C-10	-
D2035	B-1,B-10	-
D2036	H-7	④
D2037	G-7	④
I C		
IC2001	D-8	
TRANSISTOR		*
Q2006	G-8	①
Q2007	C-8	①
Q2009	B-8	①
Q2011	B-8	①
Q2014	F-8	①
Q2016	C-8	①
Q2022	F-8	①
Q2027	D-8	①
Q2028	B-8	①
Q2029	B-8	①
Q2030	D-7	①
Q2031	D-7	①
Q2032	E-8	①
Q2033	B-9	①
Q2034	B-10	①
Q2035	C-10	①
Q2036	C-10	①
Q2038	E-6	①
Q2039	E-7	①
Q2040	C-10	①
Q2041	E-6	①
Q2043	C-10	①

- E BOARD - **E** [H/V]


1
2
3
A
B
C
D
E
F
G
HOLD DOWN
HV REG
CN885
CN886
CN882
CN827
IC902
IC901
IC903
IC904
IC905
IC906

U [A/V SW, EXT VIDEO/AUDIO IN
SPEAKER OUTPUT, MONITO

- U BOARD -


1
2
A
B
C
D
E
F
G
H

U BOARD IC VOLTAGE LIST

IC2001	1	3.9	15	3.8	33	3.8
	2	3.9	16	3.8	35	3.8
	3	3.9	17	3.8	36	GND
	4	3.9	18	8.0	37	3.8
	5	3.9	19	4.5	38	3.8
	6	8.0	20	4.5	39	3.8
	7	3.8	21	GND	40	3.8
	8	3.8	23	3.8	42	3.8
	9	3.8	26	3.8	43	3.8
	10	3.8	28	3.8	44	9.4
	11	3.8	29	3.8	45	3.8
	12	8.0	30	3.8	46	3.8
	13	3.8	31	3.8	47	3.8
	14	3.8	32	3.8	48	3.8

All Voltage are in V.

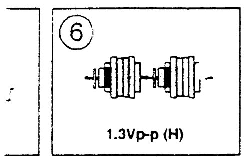
U BOARD
TRANSISTOR VOLTAGE LIST

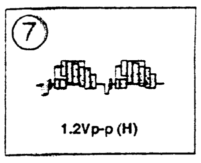
	B	C	E
Q2006	0	8.0	GND
Q2007	3.8	9.4	3.1
Q2009	3.8	5.3	3.1
Q2011	3.1	GND	3.7
Q2014	0	8.0	GND
Q2016	1.8	GND	2.5
Q2022	0	8.0	GND
Q2027	3.8	9.4	3.1
Q2028	3.8	9.4	3.1
Q2029	3.8	9.4	3.1
Q2030	3.8	9.4	3.1
Q2031	3.8	9.4	3.1
Q2032	3.8	GND	4.4
Q2033	4.5	9.4	3.9
Q2034	2.6	4.5	1.9
Q2035	4.5	9.4	3.9
Q2036	2.6	4.5	1.9
Q2038	7.9	0	8.3
Q2039	0	0	GND
Q2040	4.5	9.4	3.9
Q2041	0	0	GND
Q2043	2.6	4.5	1.9

All Voltage are in V.

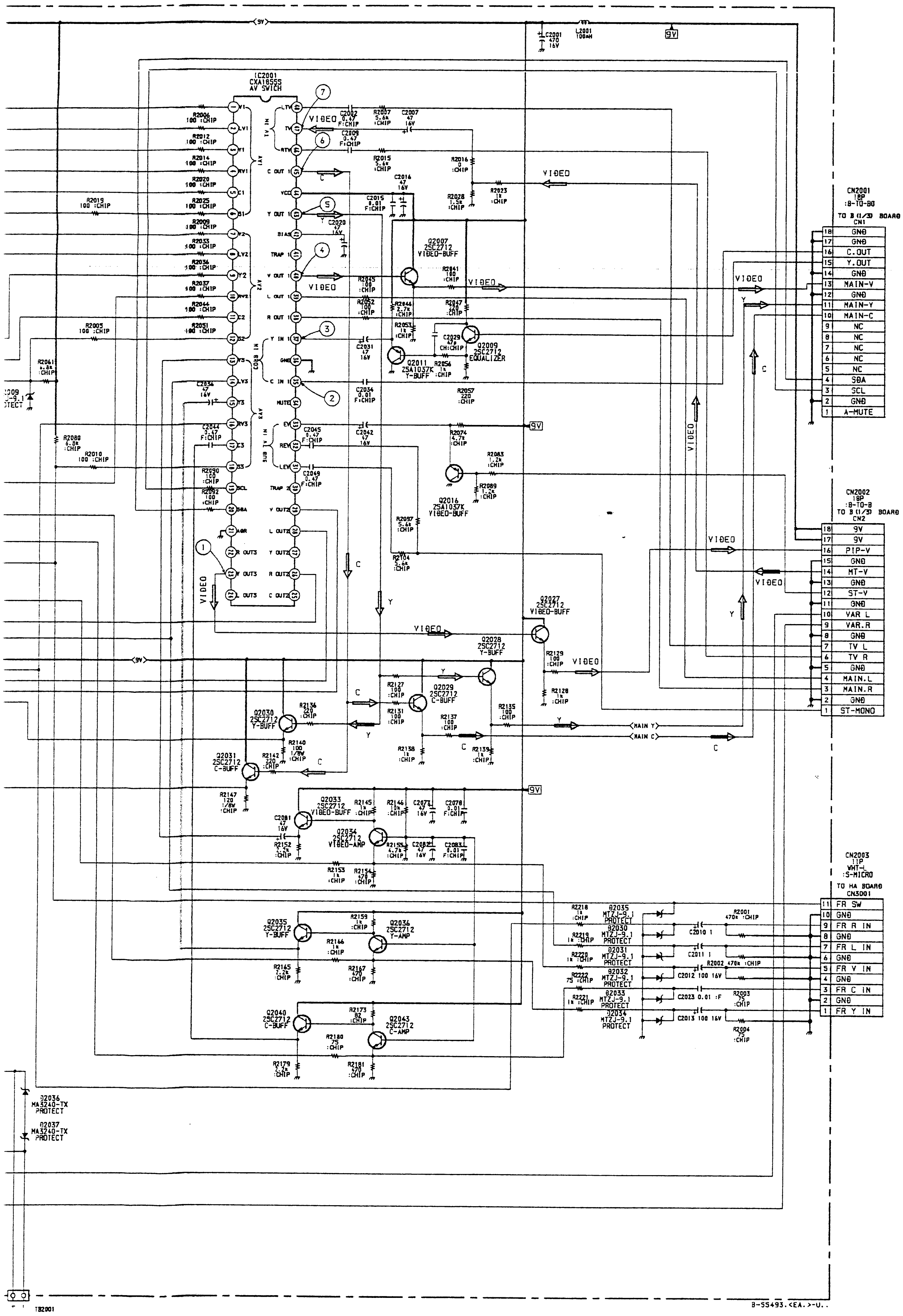
E BOARD

DIODE		*	D926
D801	C-7	–	D927
D802	C-7	③	D929
D803	D-5	–	IC
D804	A-10	–	IC901
D805	D-10	–	IC902
D806	B-1	–	IC903
D807	D-7	–	IC904
D808	F-8	–	IC905
D809	A-1	–	IC906
D810	F-10	–	TRANSI
D812	E-2	③	Q801
D814	D-5	–	Q802
D816	D-4	③	Q803
D817	E-1	③	Q806
D818	E-1	③	Q807
D819	E-3	④	Q808
D901	C-2	③	Q809
D904	B-2	③	Q810
D905	D-1	③	Q811
D907	B-1	③	Q813
D908	C-2	④	Q901
D909	B-7	–	Q902
D910	C-2	–	Q903
D911	C-2	④	Q904
D912	C-1	④	Q905
D913	B-3	③	Q906
D914	B-3	③	Q907
D915	B-4	③	Q908
D916	A-3	④	Q909
D917	C-3	③	Q910
D918	B-4	③	Q911
D919	C-1	④	Q912
D920	A-5	–	Q913
D921	G-4	④	Q914
D922	F-4	③	Q915
D923	G-4	③	Q916
D924	D-3	③	Q917





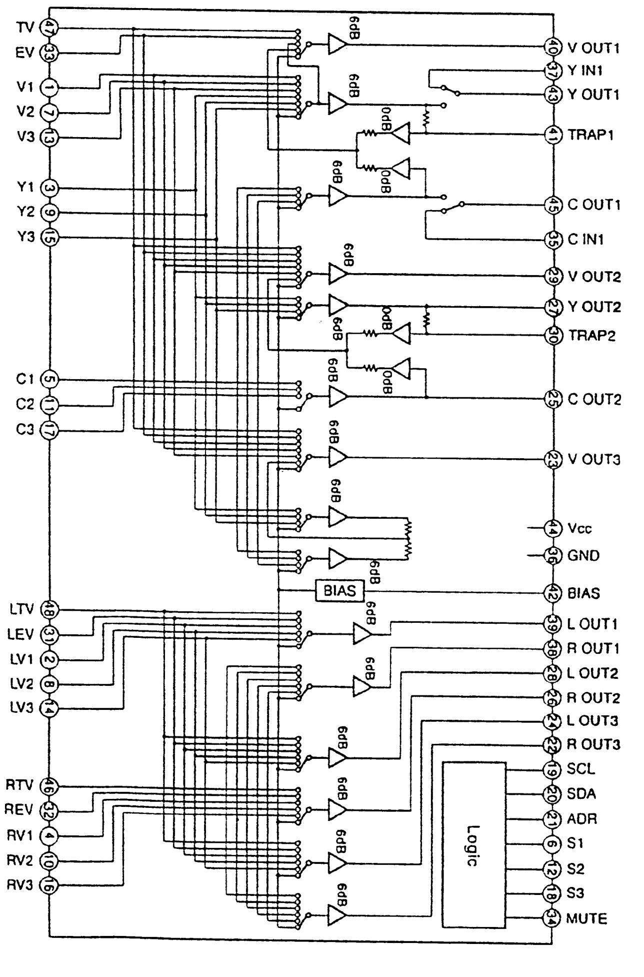
NOTE:
The circuit indicated as left contains high vol
600 Vp-p. Care must be paid to prevent an elec
inspection or repairing.


9V
C2001 470 16V
L2001 100µH
IC2001 CXA1855S AV SWICH
VIDEO
C OUT
Y OUT
Y IN
C IN
MUTE
BIAS
TRAP
Vcc
Q2007 2SC2712 VIDEO-BUFF
Q2009 2SC2712 EQUALIZER
Q2011 2SA1037K Y-BUFF
Q2016 2SA1037K VIDEO-BUFF
Q2027 2SC2712 VIDEO-BUFF
Q2028 2SC2712 Y-BUFF
Q2029 2SC2712 C-BUFF
Q2030 2SC2712 Y-BUFF
Q2031 2SC2712 C-BUFF
Q2033 2SC2712 VIDEO-BUFF
Q2034 2SC2712 VIDEO-AMP
Q2035 2SC2712 Y-BUFF
Q2036 2SC2712 Y-AMP
Q2040 2SC2712 C-BUFF
Q2043 2SC2712 C-AMP
D2036 MA3240-TX PROTECT
D2037 MA3240-TX PROTECT
D2035 MTZJ-9.1 PROTECT
D2030 MTZJ-9.1 PROTECT
D2031 MTZJ-9.1 PROTECT
D2032 MTZJ-9.1 PROTECT
D2033 MTZJ-9.1 PROTECT
D2034 MTZJ-9.1 PROTECT
MAIN Y
MAIN C
CN2001 18P :8-TO-B0 TO B (1/3) BOARD CN1
18 GND
17 GND
16 C.OUT
15 Y.OUT
14 GND
13 MAIN-V
12 GND
11 MAIN-Y
10 MAIN-C
9 NC
8 NC
7 NC
6 NC
5 NC
4 SDA
3 SCL
2 GND
1 A-MUTE
CN2002 18P :8-TO-B TO B (1/3) BOARD CN2
18 9V
17 9V
16 PIP-V
15 GND
14 MT-V
13 GND
12 ST-V
11 GND
10 VAR L
9 VAR.R
8 GND
7 TV L
6 TV R
5 GND
4 MAIN.L
3 MAIN.R
2 GND
1 ST-MONO
CN2003 11P WHT-L :S-MICRO TO HA BOARD CN3001
11 FR SW
10 GND
9 FR R IN
8 GND
7 FR L IN
6 GND
5 FR V IN
4 GND
3 FR C IN
2 GND
1 FR Y IN
TB2001
8-55493.<EA.>-U..

NTER-SP

atic diagrams
ard ➜

U BOARD : IC2001 CXA1855S


TV
EV
V1
V2
V3
Y1
Y2
Y3
C1
C2
C3
LTV
LEV
LV1
LV2
LV3
RTV
REV
RV1
RV2
RV3
6dB
BIAS
Logic
V OUT1
Y IN1
Y OUT1
TRAP1
C OUT1
C IN1
V OUT2
Y OUT2
TRAP2
C OUT2
V OUT3
Vcc
GND
BIAS
L OUT1
R OUT1
L OUT2
R OUT2
L OUT3
R OUT3
SCL
SDA
ADR
S1
S2
S3
MUTE

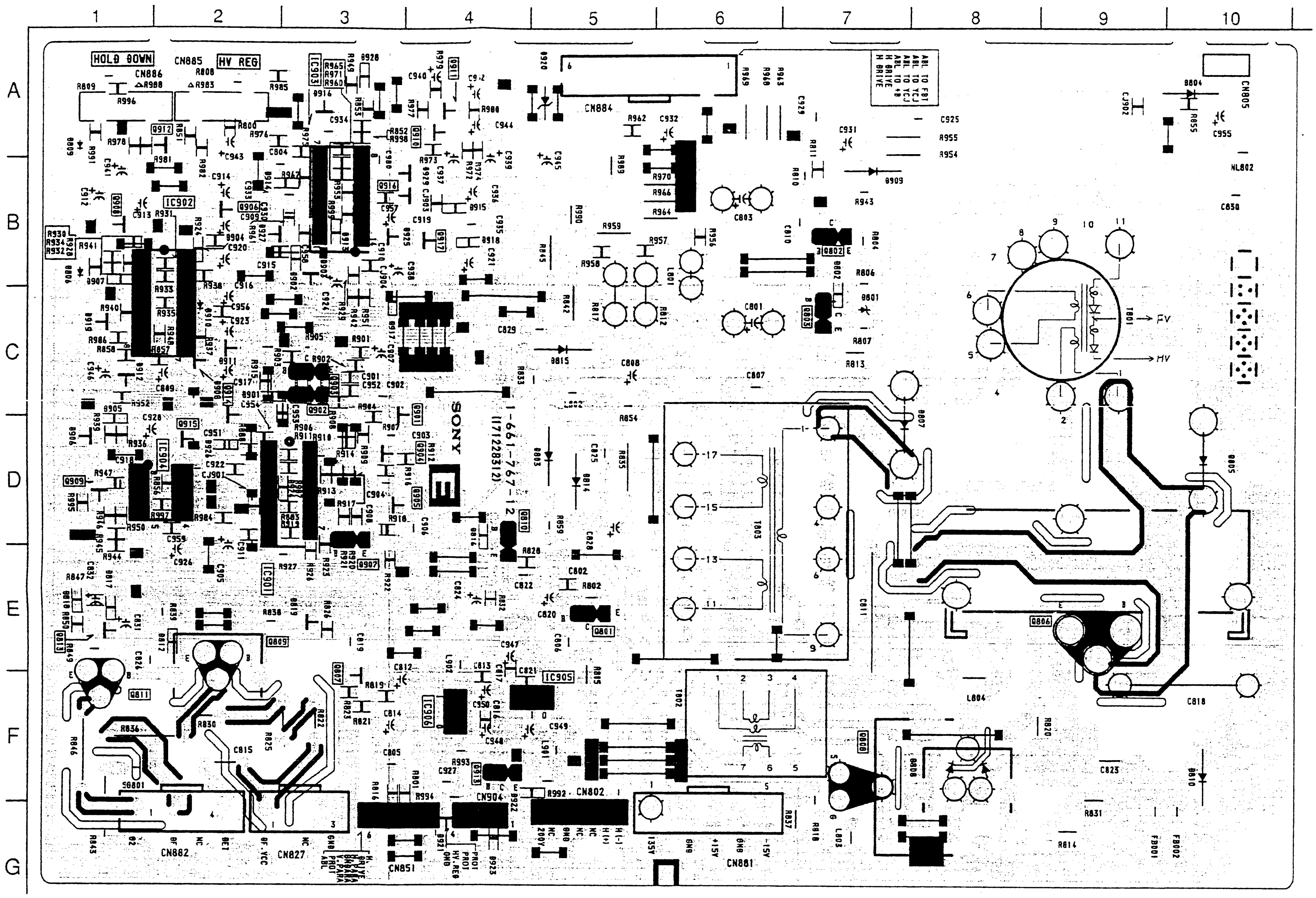
926	D-2	③
927	B-2	④
929	B-4	④
I C		
C901	D-3	
C902	C-2	
C903	B-3	
C904	D-2	
C905	F-4	
C906	F-4	
TRANSISTOR		*
801	E-5	–
802	B-7	–
803	C-7	–
806	E-9	–
807	F-3	①
808	F-7	–
809	E-2	–
810	D-4	–
811	F-1	–
813	E-1	①
901	C-3	①
902	C-3	–
903	C-3	–
904	D-3	①
905	D-3	①
906	B-2	①
907	D-3	–
908	B-1	①
909	D-1	①
910	A-4	①
911	A-4	①
912	A-2	①
913	F-4	–
914	C-2	①
915	D-2	①
916	B-4	①
917	B-4	①

igh voltage of over
an electric shock in

U BOARD

DIODE		*
D2001	G-2,G-9	–
D2002	G-2,G-9	–
D2003	F-2,G-9	–
D2004	G-3,G-8	–
D2005	G-4,G-7	–
D2006	G-5,G-7	–
D2007	F-2,F-9	–
D2008	F-2,F-9	–
D2009	F-2,F-9	–
D2010	F-2,F-9	–
D2011	E-3,E-8	–
D2012	G-5,G-6	–
D2013	E-2,E-9	–
D2014	F-2,F-9	–
D2015	E-2,E-9	–
D2016	E-4,E-8	–
D2017	E-4,E-7	–
D2018	E-4,E-7	–
D2019	E-2,E-9	–
D2020	E-3,E-9	–
D2021	E-3,E-8	–
D2022	E-4,E-7	–
D2023	C-5,C-6	–
D2024	D-7	⑥
D2027	G-5,G-6	–
D2028	H-5,H-6	–
D2030	B-1,B-10	–
D2031	B-2,B-10	–
D2032	B-1,B-10	–
D2033	C-1,C-10	–
D2034	C-1,C-10	–
D2035	B-1,B-10	–
D2036	H-7	④
D2037	G-7	④
I C		
IC2001	D-8	
TRANSISTOR		*
Q2006	G-8	①
Q2007	C-8	①
Q2009	B-8	①
Q2011	B-8	①
Q2014	F-8	①
Q2016	C-8	①
Q2022	F-8	①
Q2027	D-8	①
Q2028	B-8	①
Q2029	B-8	①
Q2030	D-7	①
Q2031	D-7	①
Q2032	E-8	①
Q2033	B-9	①
Q2034	B-10	①
Q2035	C-10	①
Q2036	C-10	①
Q2038	E-6	①
Q2039	E-7	①
Q2040	C-10	①
Q2041	E-6	①
Q2043	C-10	①

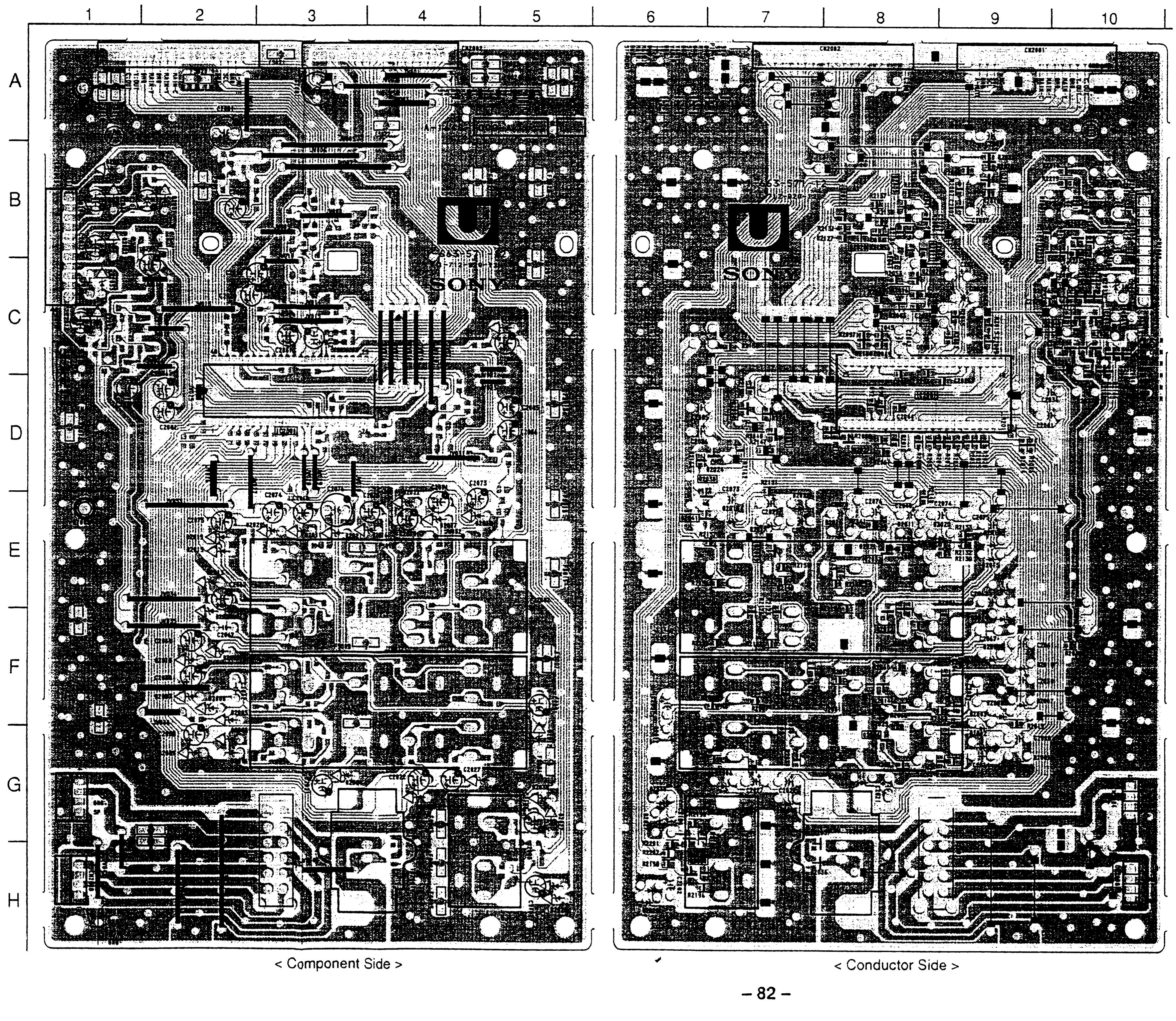
- E BOARD - E [H/V]


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
HOLD DOWN
HV REG
CN885
CN886
CN884
CN882
CN827
CN851
CN802
CN881
CN904
CN805
IC903
IC902
IC901
IC904
IC905
IC906
T801
T803
T802
FV
HV
SONY
1-661-767-12
(1712283121)
E

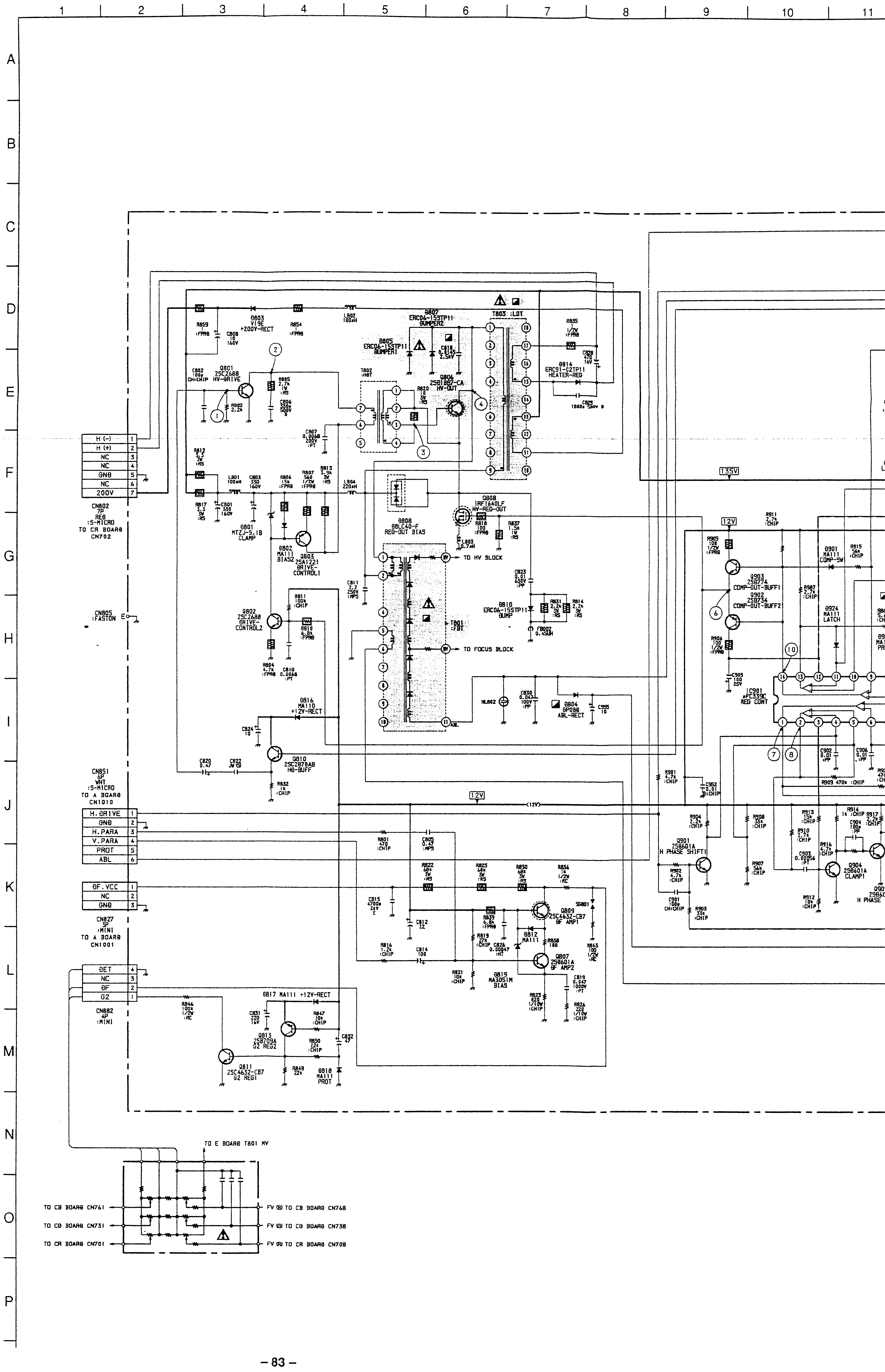
U [A/V SW, EXT VIDEO/AUDIO INPUT, SPEAKER OUTPUT, MONITOR OUTPUT]

- U BOARD -

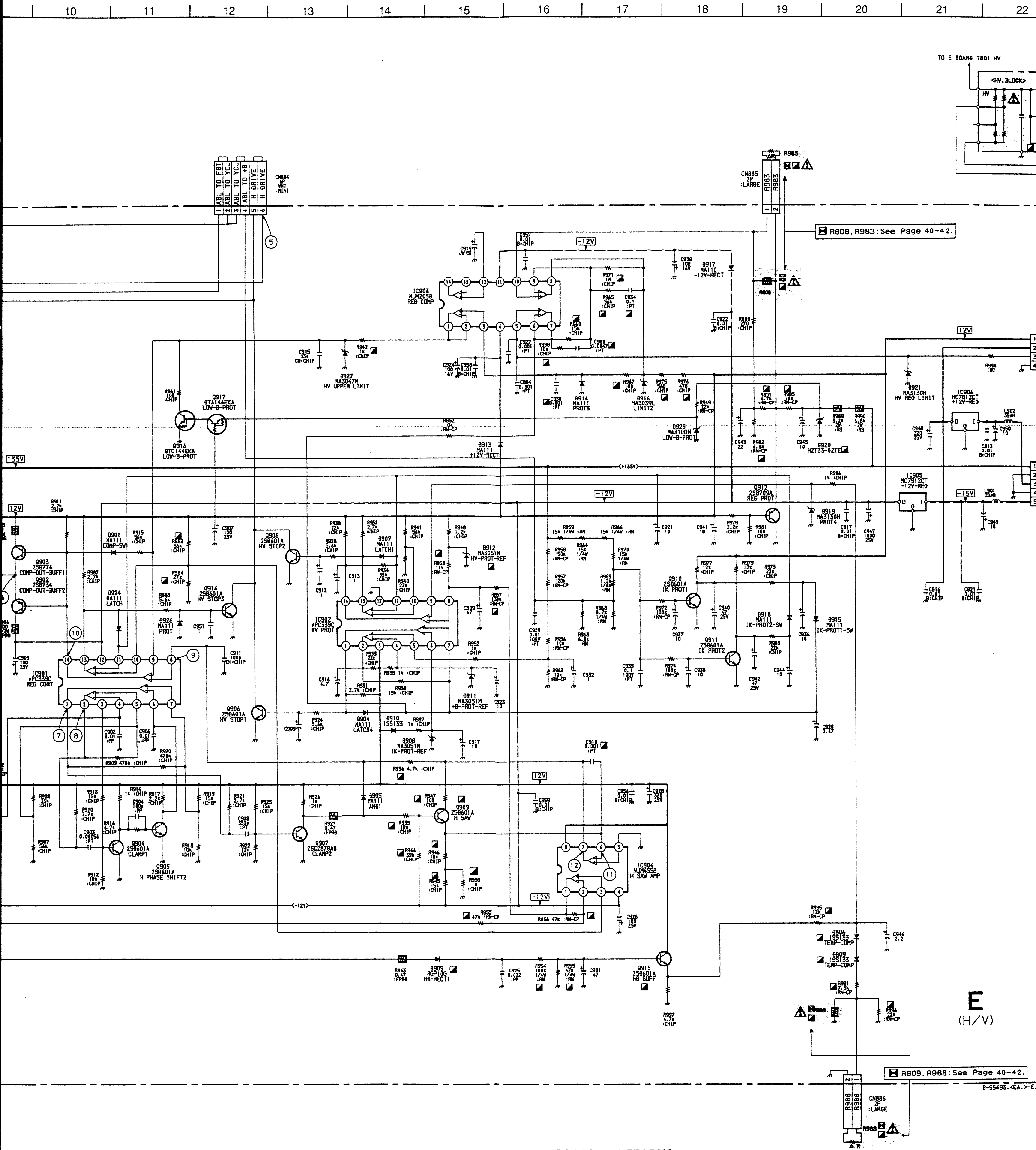
NOTE:
- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
U
SONY

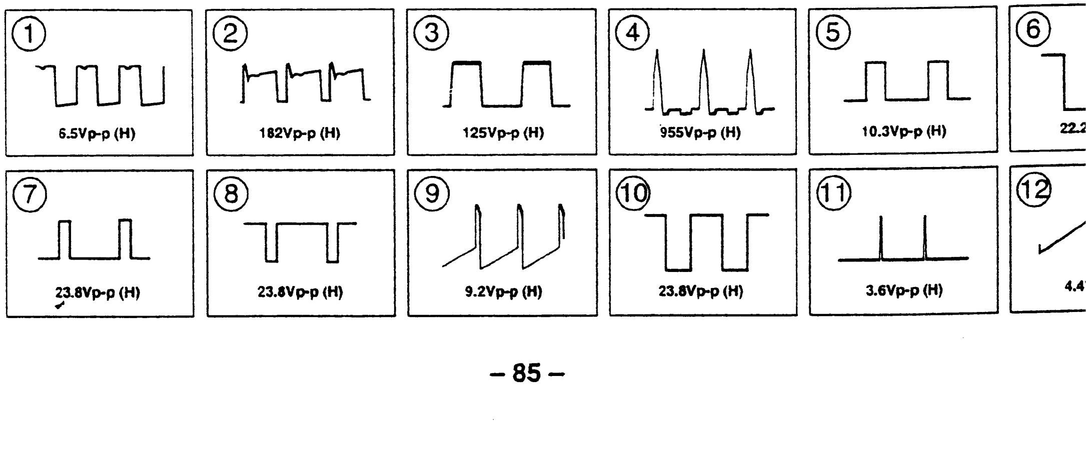
< Component Side >　　< Conductor Side >

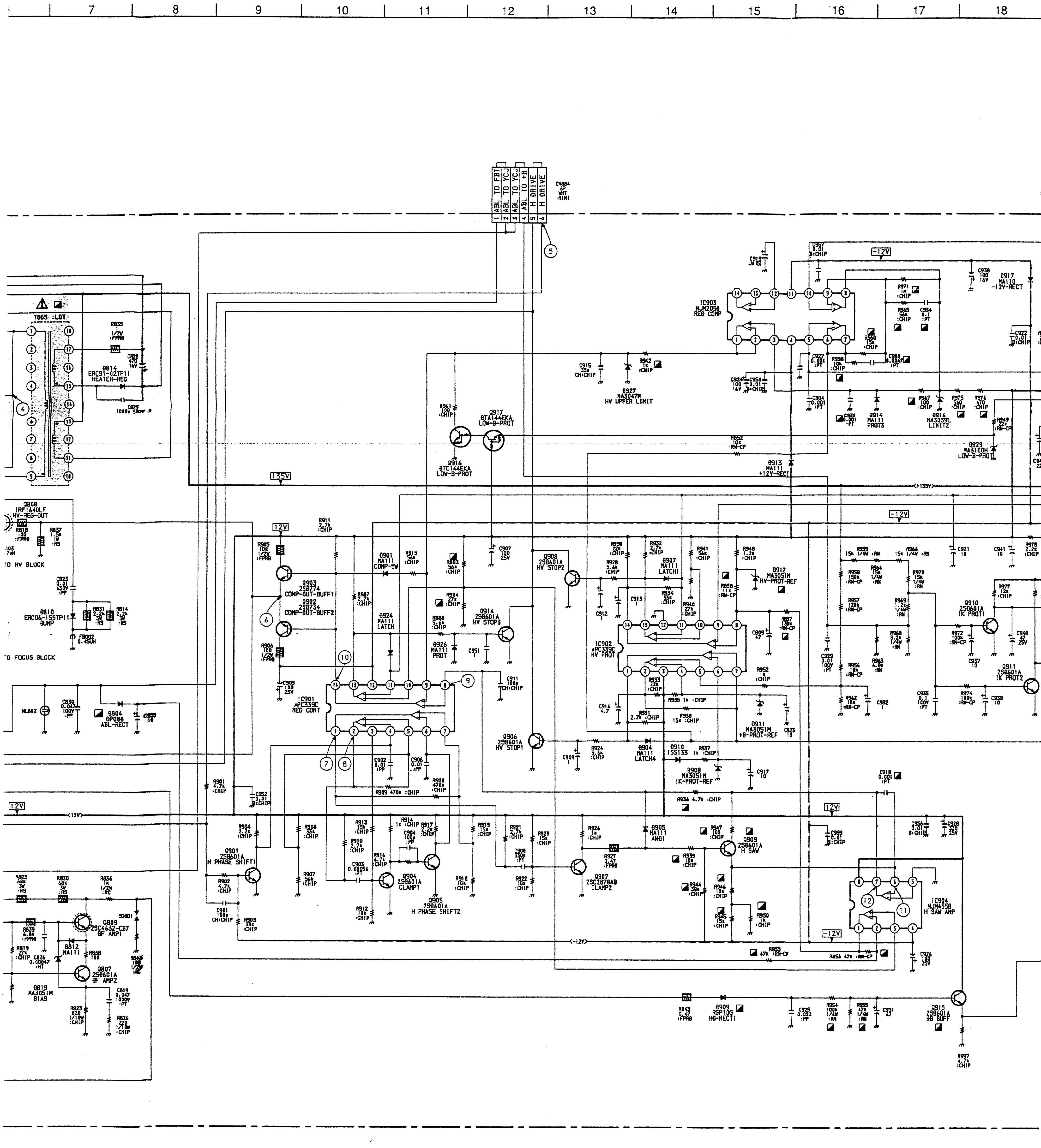


H (-)
H (+)
NC
GND
200V
CN802 7P RED :S-MICRO TO CR BOARD CN702
CN805 :FASTON
CN851 6P WHT :S-MICRO TO A BOARD CN1010
H.DRIVE
H.PARA
V.PARA
PROT
ABL
DF.VCC
CN827 3P :MINI TO A BOARD CN1001
DET
DF
G2
CN882 4P :MINI
TO E BOARD T801 HV
TO CB BOARD CN761
TO CG BOARD CN731
TO CR BOARD CN701
FV (B) TO CB BOARD CN768
FV (G) TO CG BOARD CN738
FV (R) TO CR BOARD CN708
D803 V19E +200V-RECT
L802 100μH
Q801 2SC2688 HV-DRIVE
D807 ERC06-15STP11 DUMPER2
D805 ERC06-15STP11 DUMPER1
Q806 2SD1887-CA HV-OUT
T802 :HDT
T803 :LOT
D814 ERC91-02TP11 HEATER-REG
L801 100μH
L804 220μH
D801 MTZJ-5.1B CLAMP
D802 MA111 BIAS2
Q803 2SA1221 DRIVE-CONTROL1
Q802 2SC2688 DRIVE-CONTROL2
D808 IRF1640LF HV-REG-OUT
D808 DDLC40-F REG-OUT BIAS
T801 :FBT
TO HV BLOCK
TO FOCUS BLOCK
D810 ERC06-15STP11 DUMP
D804 GP08D ABL-RECT
D816 MA110 +12V-RECT
Q810 2SC2878AB HD-BUFF
12V
135V
Q809 2SC4632-CB7 DF AMP1
D812 MA111
Q807 2SD601A DF AMP2
D819 MA3051M BIAS
D817 MA111 +12V-RECT
Q813 2SB709A G2 REG2
Q811 2SC4632-CB7 G2 REG1
D818 MA111 PROT
Q903 2SD774 COMP-OUT-BUFF1
Q902 2SB734 COMP-OUT-BUFF2
D901 MA111 COMP-SW
D924 MA111 LATCH
IC901 μPC339C REG CONT
Q901 2SD601A H PHASE SHIFT1
Q904 2SD601A CLAMP1

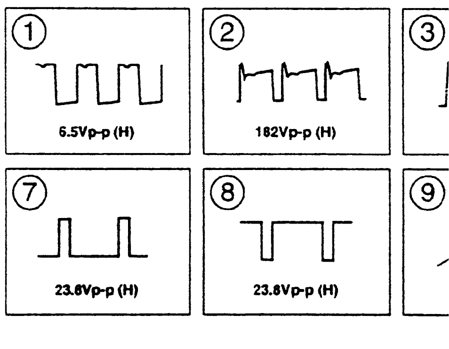

10
11
12
13
14
15
16
17
18
19
20
21
22
TO E BOARD T801 HV
<HV.BLOCK>
HV
CN884 6P WHT :MINI
1 ABL TO FBT
2 ABL TO YCJ
3 ABL TO YCJ
4 ABL TO +B
5 H DRIVE
6 H DRIVE
CN885 2P :LARGE
R983
R808, R983:See Page 40-42.
-12V
12V
-15V
135V
(+135V)
(-12V)
IC903 NJM2058 REG COMP
0917 MA110 -12V-RECT
0927 MA3047M HV UPPER LIMIT
Q917 DTA144EKA LOW-B-PROT
Q916 DTC144EKA LOW-B-PROT
0913 MA111 +12V-RECT
0914 MA111 PROT3
0916 MA3039L LIMIT2
0929 MA3100H LOW-B-PROT
0920 HZT33-02TE
0921 MA3130H HV REG LIMIT
IC906 MC7812CT +12V-REG
IC905 MC7912CT -12V-REG
Q912 2SB709A REG PROT
0919 MA3130H PROT4
Q903 2SB774 COMP-OUT-BUFF1
Q902 2SB734 COMP-OUT-BUFF2
0901 MA111 COMP-SW
0924 MA111 LATCH
0926 MA111 PROT
Q914 2SB601A HV STOP3
Q908 2SB601A HV STOP2
0907 MA111 LATCH1
0912 MA3051M HV-PROT-REF
IC902 µPC339C HV PROT
Q910 2SB601A IK PROT1
Q911 2SB601A IK PROT2
0918 MA111 IK-PROT2-SW
0915 MA111 IK-PROT1-SW
IC901 µPC339C REG CONT
Q906 2SB601A HV STOP1
0904 MA111 LATCH4
0910 1SS133
0908 MA3051M IK-PROT-REF
0911 MA3051M +B-PROT-REF
Q904 2SB601A CLAMP1
Q905 2SB601A H PHASE SHIFT2
Q907 2SC2878AB CLAMP2
0905 MA111 AN01
Q909 2SB601A H SAW
IC904 NJM4558 H SAW AMP
0909 RGP10G HB-RECT1
Q915 2SB601A HB BUFF
0806 1SS133 TEMP-COMP
0809 1SS133 TEMP-COMP
E
(H/V)
R809, R988:See Page 40-42.
CN886 2P :LARGE
R988
B-SS495.<EA.>-E.
⑤
⑦
⑧
⑨
⑩
⑪
⑫

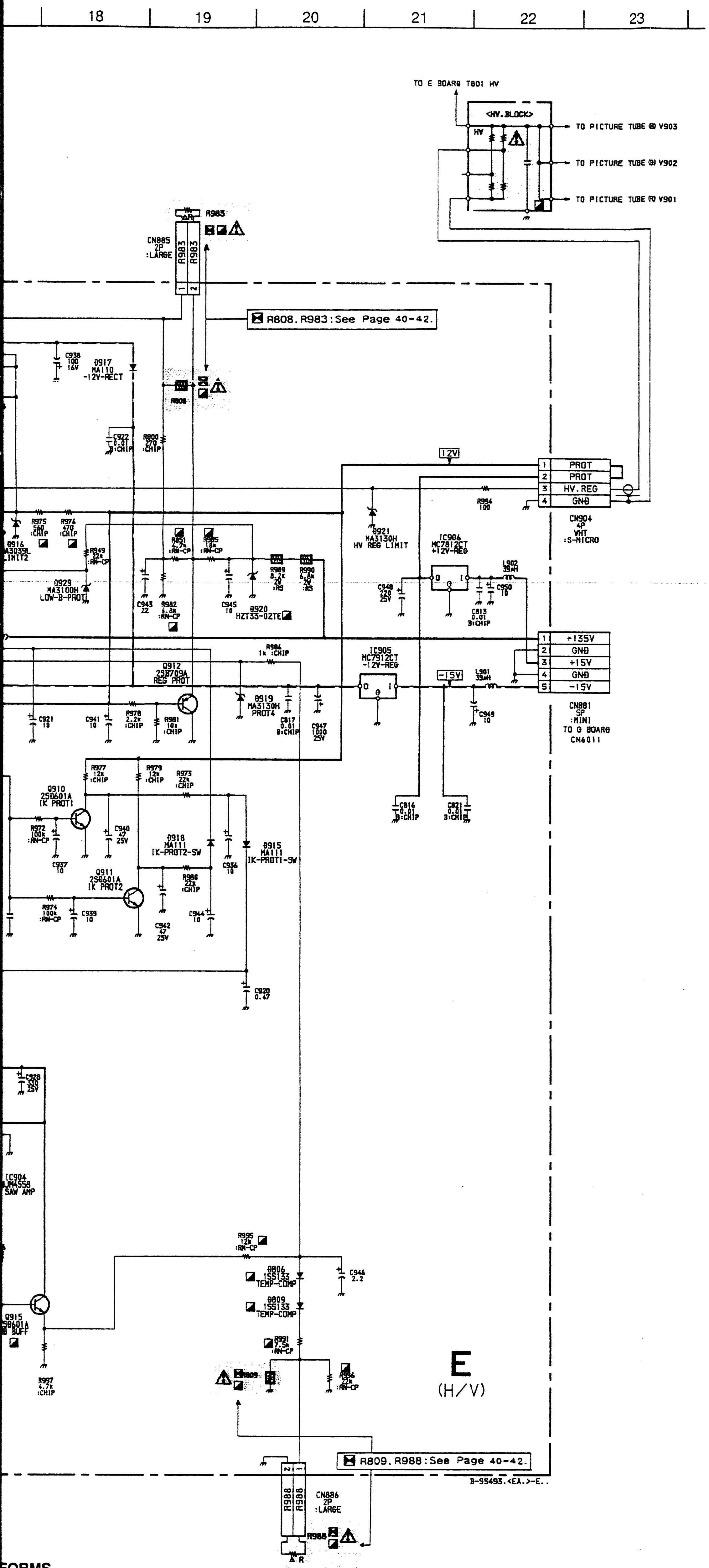
• E BOARD WAVEFORMS



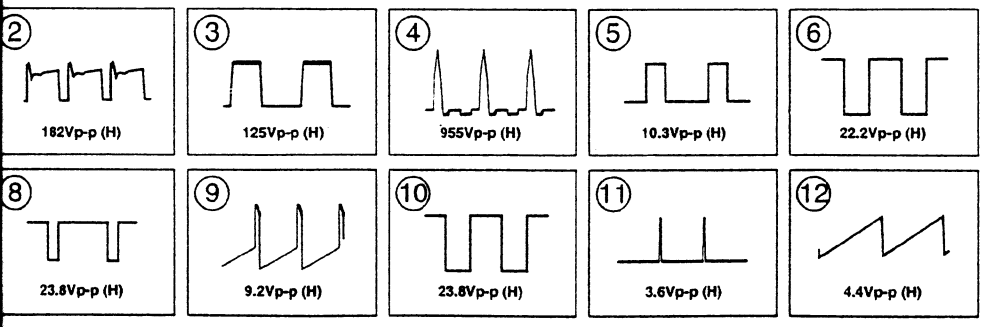

7
8
9
10
11
12
13
14
15
16
17
18
CN884 6P WHT :MINI
1 ABL TO FBT
2 ABL TO YCJ
3 ABL TO YCJ
4 ABL TO +B
5 H DRIVE
6 H DRIVE
T803 :LDT
R835 1/2W :FPRB
C828 470 16V
D814 ERC91-02TP11 HEATER-REG
C825 1000p 500V
135V
Q808 IRF1640LF HV-REG-OUT
R818 100 :FPRB
R837 1.5k 1W :RS
TO HV BLOCK
C823 0.01 630V :PP
D810 ERC06-15STP11 BUMP
R831 2.2k 3W :RS
R814 2.2k 3W :RS
FB002 0.45UH
TO FOCUS BLOCK
HL602
C830 0.047 100V :PP
D804 GP08B ABL-RECT
12V
R911 2.7k :CHIP
R905 100 1/2W :FPRB
Q903 2SB774 COMP-OUT-BUFF1
Q902 2SB734 COMP-OUT-BUFF2
R906 100 1/2W :FPRB
C905 100 25V
D901 MA111 COMP-SW
R915 56k :CHIP
R987 2.7k :CHIP
D924 MA111 LATCH
R883 56k :CHIP
R984 27k :CHIP
R988 5.6k :CHIP
D926 MA111 PROT
C951 1
Q914 2SB601A HV STOP3
C907 100 25V
C911 100p CH:CHIP
IC901 μPC339C REG CONT
Q916 DTC144EKA LOW-B-PROT
Q917 DTA144EKA LOW-B-PROT
R961 100 :CHIP
C915 33p CH:CHIP
D927 MA3047M HV UPPER LIMIT
R942 1k :CHIP
Q908 2SB601A HV STOP2
R930 22k :CHIP
R932 2.7k :CHIP
D907 MA111 LATCH1
R941 56k :CHIP
R948 1.2k :CHIP
D912 MA3051M HV-PROT-REF
R928 5.6k :CHIP
R934 33k :CHIP
R940 27k :CHIP
R958 11k :RN-CP
R957 150k :RN-CP
C809 47
IC902 μPC339C HV PROT
R933 22k :CHIP
R935 1k :CHIP
R931 2.7k :CHIP
R938 15k :CHIP
R952 1k :CHIP
D911 MA3051M +B-PROT-REF
C923 10
C914 4.7
C912 1
C913 1
Q906 2SB601A HV STOP1
R924 5.6k :CHIP
C909
D904 MA111 LATCH4
D910 1SS133
R937 1k :CHIP
D908 MA3051M IK-PROT-REF
C917 10
R934 4.7k :CHIP
C902 0.01 :PP
C906 0.01 :PP
R920 470k :CHIP
R909 470k :CHIP
R901 4.7k :CHIP
C952 0.01 B:CHIP
R904 2.2k :CHIP
Q901 2SB601A H PHASE SHIFT1
R902 4.7k :CHIP
C901 100p CH:CHIP
R903 33k :CHIP
R908 33k :CHIP
R907 56k :CHIP
R913 15k :CHIP
R910 2.7k :CHIP
C903 0.00056 :PT
R914 1k :CHIP
C904 100p :PP
R917 2.2k :CHIP
R916 4.7k :CHIP
Q904 2SB601A CLAMP1
Q905 2SB601A H PHASE SHIFT2
R912 10k :CHIP
R919 15k :CHIP
R918 10k :CHIP
R921 2.7k :CHIP
C908 330p :PT
R922 10k :CHIP
R923 15k :CHIP
R926 1k :CHIP
R927 0.47 :FPRB
Q907 2SC2878AB CLAMP2
D905 MA111 AND1
R947 100 :CHIP
Q909 2SB601A H SAW
R939 10k :CHIP
R944 39k :CHIP
R946 10k :CHIP
R945 15k :CHIP
R950 1k :CHIP
R855 47k :RN-CP
R856 47k :RN-CP
-12V
IC903 NJM2058 REG COMP
C957 0.01 B:CHIP
C919
R971 1M :CHIP
R965 56k :CHIP
C934 0.1 :PT
R990 15k :CHIP
R998 10k :CHIP
C927 0.001 :PT
C980 0.0047 :PT
C924 100 16V
C958 0.01 B:CHIP
C804 0.001 :PT
C938 0.001 :PT
D914 MA111 PROT3
R967 100 :CHIP
D916 MA3039L LIMIT2
R975 56k :CHIP
R976 470 :CHIP
R949 22k :RN-CP
R852 10k :RN-CP
D913 MA111 +12V-RECT
D929 MA3100H LOW-B-PROT
C936 100 16V
D917 MA110 -12V-RECT
C922 0.01 B:CHIP
+135V
R959 15k 1/4W :RN
R966 15k 1/4W :RN
C921 10
C941 10
R978 2.2k :CHIP
R958 150k :RN-CP
R964 15k 1/4W :RN
R970 15k 1/4W :RN
R977 12k :CHIP
R957 120k :RN-CP
R969 1.2k 1/4W :RN
Q910 2SB601A IK PROT1
R972 100k :RN-CP
C940 47 25V
C929 0.01 100V :PT
R956 10k :RN-CP
R963 6.8k :RN
R968 8.2k 1/4W :RN
C937 10
Q911 2SB601A IK PROT2
R962 10k :RN-CP
C932 1
C935 0.1 100V :PT
R974 100k :RN-CP
C939 10
C918 0.001 :PT
C959 0.01 B:CHIP
C956 0.01 B:CHIP
C928 330 25V
IC904 NJM4558 H SAW AMP
C976 100 25V
R943 0.47 :FPRB
D909 RGP10G HB-RECT1
C925 0.022 :PP
R954 100k 1/4W :RN
R955 47k 1/4W :RN
C931 47
Q915 2SB601A HB BUFF
R997 4.7k :CHIP
R825 68k 3W :RS
R830 68k 3W :RS
R834 100 1/2W :RC
Q809 2SC4632-CB7 BF AMP1
SG801
R839 6.8k :FPRB
R819 27k :CHIP
C826 0.00047 :MT
D812 MA111
R838 100
R843 100 1/2W
Q807 2SB601A BF AMP2
D819 MA3051M BIAS
R823 820 1/10W :CHIP
C819 0.047 1000V :PT
R826 220 1/10W :CHIP
(+12V)
(-12V)
(+135V)

• E BOARD WAVEFORMS


①
6.5Vp-p (H)
②
182Vp-p (H)
③
⑦
23.8Vp-p (H)
⑧
23.8Vp-p (H)
⑨


18
19
20
21
22
23
TO E BOARD T801 HV
<HV.BLOCK>
HV
TO PICTURE TUBE ⑬ V903
TO PICTURE TUBE G3 V902
TO PICTURE TUBE FV V901
R983
CN885 2P :LARGE
R808, R983 : See Page 40-42.
C938 100 16V
D917 MA110 -12V-RECT
R808
C922 0.01 :CHIP
R800 270 :CHIP
12V
PROT
PROT
HV.REG
GND
CN904 4P WHT :S-MICRO
R994 100
D921 MA3130H HV REG LIMIT
IC906 MC7812CT +12V-REG
L902 33µH
C948 220 25V
C950 10
C813 0.01 B:CHIP
R975 560 :CHIP
R976 470 :CHIP
D916 MA3039L LIMIT2
R949 22k :RN-CP
D929 MA3100H LOW-B-PROT
R951 4.7k :RN-CP
R985 18k :RN-CP
R989 8.2k 2W :RS
R990 6.8k 2W :RS
C943 22
R982 6.8k :RN-CP
C945 10
D920 HZT33-02TE
+135V
GND
+15V
GND
-15V
CN881 5P :MINI TO G BOARD CN6011
R984 1k :CHIP
IC905 MC7912CT -12V-REG
-15V
L901 33µH
C949 10
Q912 2SB709A REG PROT
R978 2.2k :CHIP
R981 10k :CHIP
D919 MA3130H PROT4
C917 0.01 B:CHIP
C947 1000 25V
C921 10
C941 10
C816 0.01 B:CHIP
C821 0.01 B:CHIP
R977 12k :CHIP
R979 12k :CHIP
R973 22k :CHIP
Q910 2SC601A IK PROT1
R972 100k :RN-CP
C940 47 25V
D918 MA111 IK-PROT2-SW
D915 MA111 IK-PROT1-SW
C937 10
Q911 2SC601A IK PROT2
R980 22k :CHIP
C934 10
R974 100k :RN-CP
C939 10
C942 47 25V
C944 10
C920 0.47
C928 330 25V
IC904 NJM4558 SAW AMP
R995 12k :RN-CP
D806 1SS133 TEMP-COMP
C946 2.2
D809 1SS133 TEMP-COMP
R991 7.5k :RN-CP
R809
R986 22k :RN-CP
Q915 2SC601A BUFF
R997 4.7k :CHIP
E (H/V)
R809, R988 : See Page 40-42.
R988
CN886 2P :LARGE
R
B-SS493.<EA.>-E..

FORMS



E BOARD IC VOLTAGE LIST

IC901	1	-5.7	IC902	1	0.2	IC903	1	2.4		3	4.1
	2	6.8		2	0		2	2.4		4	-12.5
	3	12.8		3	12.7		3	2.4		5	GND
	4	3.8		4	5.4		4	12.0		6	0.2
	5	8.0		5	5.0		5	7.9		7	2.3
	6	7.5		6	5.4		6	7.9		8	12.7
	7	5.0		7	4.8		7	7.9	IC905	I	-15.0
	8	2.8		8	5.2		8	2.4		G	GND
	9	2.8		9	5.0		9	7.8		O	-12.6
	10	4.1		10	4.2		10	7.8	IC906	I	15.0
	11	0		11	0		11	-11.8		G	GND
	12	-12.6		12	GND		12	3.6		O	12.8
	13	-12.3		13	0.2	IC904	1	3.1			
	14	2.4		14	0		2	4.1			

All Voltage are in V.
Pin numbers which are not described are not used.

E BOARD
TRANSISTOR VOLTAGE LIST

	B	C	E
Q801	-3.0	94.3	GND
Q802	2.9	136.9	2.5
Q803	136.9	94.6	137.5
Q806	52.4	141.4	52.4
Q807	2.2	5.3	1.6
Q809	6.1	365.0	5.6
Q810	4.2	12.0	5.9
Q811	0	722.0	GND
Q813	12.7	0	12.7
Q901	-0.8	3.8	GND
Q902	2.4	-12.1	2.3
Q903	2.3	12.1	2.3
Q904	0.5	0.9	GND
Q905	0.2	7.5	GND
Q906	0.2	4.2	GND
Q907	0.5	0.7	GND
Q908	0.2	4.2	GND
Q909	-2.2	2.3	0.2
Q910	0.7	0	GND
Q911	0.7	0	GND
Q912	10.4	GND	11.1
Q913	-0.5	0	GND
Q914	-0.6	4.2	GND
Q915	8.8	12.8	8.1
	S	G	D
Q808	0	2.3	52.4

All Voltage are in V.

A BOARD
TRANSISTOR VOLTAGE LIST

	B	C	E
Q1001	-120.0	0.3	-119.7
Q1002	-3.8	36.5	GND
Q1003	4.3	GND	3.8
Q1004	9.2	1.9	9.8
Q1005	2.2	9.8	1.6
Q1006	2.6	-71.6	3.2
Q1007	2.7	-71.6	3.2
Q1008	1.9	GND	2.6
Q1009	-120.0	-142.1	-119.7
Q1010	-116.6	-142.1	-120.9
Q1011	12.8	0.9	12.7
Q1012	0.8	0.2	GND
Q1013	1.8	12.7	1.5
Q1014	0.8	0.2	GND
Q1015	1.0	GND	1.5
Q1016	GND	1.0	1.0
Q1017	-2.3	12.5	1.0
Q1024	12.7	2.2	12.6
Q1025	1.2	0.3	1.2
Q1026	0.3	0.6	GND
Q3201	0.8	0	GND
Q3204	0	12.8	0
Q3205	0	12.8	0
Q3206	15.2	0	15.3
Q3207	12.8	0	12.8
Q3208	0	7.0	0
Q3209	0.9	0.2	0
Q3210	0	0.8	GND

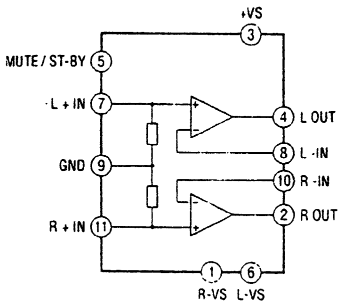
All Voltage are in V.

A B

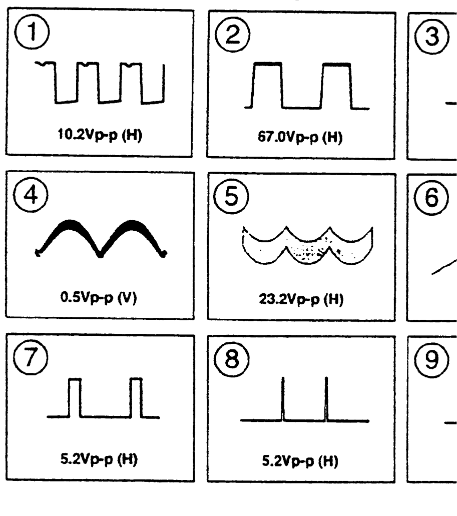
IC100
IC100
IC100
IC100
IC100
IC100
IC3201

All

A BOARD : IC3201 TDA7265



• A BOARD WAVEFORMS



RD

STOR VOLTAGE LIST

B	C	E
20.0	0.3	-119.7
3.8	36.5	GND
.3	GND	3.8
.2	1.9	9.8
.2	9.8	1.6
.6	-71.6	3.2
.7	-71.6	3.2
.9	GND	2.6
20.0	-142.1	-119.7
16.6	-142.1	-120.9
2.8	0.9	12.7
.8	0.2	GND
.8	12.7	1.5
.8	0.2	GND
.0	GND	1.5
ND	1.0	1.0
.3	12.5	1.0
.7	2.2	12.6
.2	0.3	1.2
.3	0.6	GND
.8	0	GND
	12.8	0
	12.8	0
.2	0	15.3
.8	0	12.8
	7.0	0
9	0.2	0
	0.8	GND

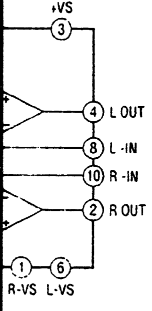
Voltage are in V.

A BOARD IC VOLTAGE LIST

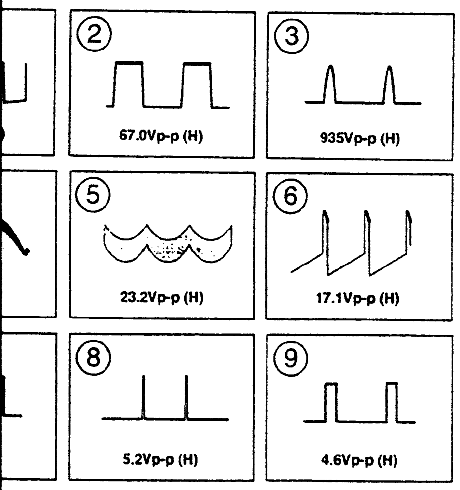
IC1001	1	6.2
	2	5.3
	3	GND
	4	6.2
IC1002	1	6.2
	2	5.3
	3	GND
	4	6.2
IC1003	1	13.6
	2	12.8
	3	GND
	4	13.6
IC1004	1	13.8
	2	9.5
	3	GND
	4	13.8
IC1005	I	-15.0
	G	GND
	O	-12.8
IC1006	I	8.3
	G	GND
	O	5.3
IC3201	1	-23.2
	2	0
	3	23.3
	4	0
	5	14.1
	6	-23.2
	7	0
	8	0
	9	GND
	10	0
	11	0

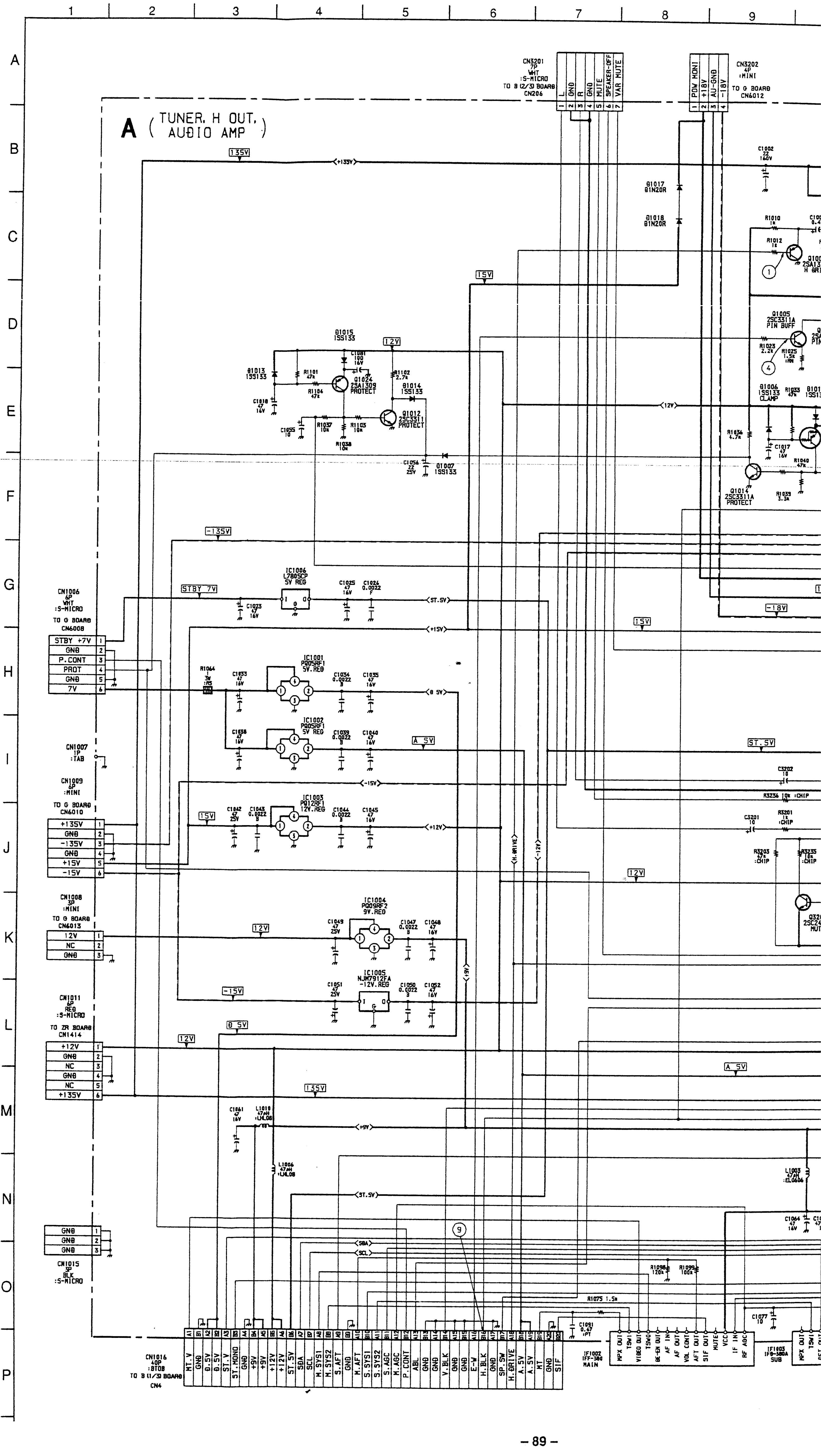
All Voltage are in V.

RD : IC3201 TDA7265


+VS
3
4 L OUT
8 L -IN
10 R -IN
2 R OUT
1
6
R-VS L-VS

WAVEFORMS




1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
A (TUNER, H OUT, AUDIO AMP)
CN3201 7P WHT :S-MICRO TO B (2/3) BOARD CN206
L
GND
R
GND
MUTE
SPEAKER-OFF
VAR MUTE
POW MONI
+18V
AU-GND
-18V
CN3202 4P :MINI TO G BOARD CN6012
135V
15V
12V
-135V
STBY 7V
-18V
ST.5V
A 5V
B 5V
-15V
D1015 1SS133
D1013 1SS133
Q1024 2SA1309 PROTECT
D1014 1SS133
Q1012 2SC3311 PROTECT
D1007 1SS133
D1017 D1N20R
D1018 D1N20R
Q1005 2SC3311A PIN BUFF
D1006 1SS133 CLAMP
Q1014 2SC3311A PROTECT
IC1006 L78O5CP 5V REG
IC1001 PQ05RF1 5V.REG
IC1002 PQ05RF1 5V REG
IC1003 PQ12RF1 12V.REG
IC1004 PQ09RF2 9V.REG
IC1005 NJM7912FA -12V.REG
CN1006 6P WHT :S-MICRO TO G BOARD CN6008
STBY +7V
GND
P.CONT
PROT
GND
7V
CN1007 1P :TAB
CN1009 6P :MINI TO G BOARD CN6010
+135V
GND
-135V
GND
+15V
-15V
CN1008 3P :MINI TO G BOARD CN6013
12V
NC
GND
CN1011 6P RED :S-MICRO TO ZR BOARD CN1414
+12V
GND
NC
GND
NC
+135V
GND
GND
GND
CN1015 3P BLK :S-MICRO
CN1016 40P :BTOB TO B (1/3) BOARD CN4
HT.V
GND
B.5V
B.5V
ST.V
ST.MONO
GND
+9V
+9V
+12V
+12V
ST.5V
SDA
SCL
M.SYS1
M.SYS2
S.AFT
GND
M.AFT
S.SYS1
S.SYS2
S.AGC
M.AGC
P.CONT
ABL
GND
GND
V.BLK
GND
GND
E.W
H.BLK
GND
SP.SW
H.DRIVE
A.5V
A.5V
HT
GND
SIF
IF1002 IFP-380 MAIN
IF1003 IFB-380A SUB
MPX OUT
TSW1
VIDEO OUT
TSW0
DE-EM OUT
AF IN
AF OUT
VOL CONT
AFT OUT
SIF OUT
MUTE
VCC
IF IN
RF AGC
(H.DRIVE)
(-12V)
(9V)
(+9V)
(ST.5V)
(SDA)
(SCL)
R1075 1.5k
L1003 47µH :EL0606
L1006 47µH :LHL08
L1010 47µH :LHL08
R1064 1 3W :RS
R3236 10k :CHIP
C3202 10
Q3201 2SC24
R1098 120k
R1099 100k

A BOARD
TRANSISTOR VOLTAGE LIST

	B	C	E
Q1001	-120.0	0.3	-119.7
Q1002	-3.8	36.5	GND
Q1003	4.3	GND	3.8
Q1004	9.2	1.9	9.8
Q1005	2.2	9.8	1.6
Q1006	2.6	-71.6	3.2
Q1007	2.7	-71.6	3.2
Q1008	1.9	GND	2.6
Q1009	-120.0	-142.1	-119.7
Q1010	-116.6	-142.1	-120.9
Q1011	12.8	0.9	12.7
Q1012	0.8	0.2	GND
Q1013	1.8	12.7	1.5
Q1014	0.8	0.2	GND
Q1015	1.0	GND	1.5
Q1016	GND	1.0	1.0
Q1017	-2.3	12.5	1.0
Q1024	12.7	2.2	12.6
Q1025	1.2	0.3	1.2
Q1026	0.3	0.6	GND
Q3201	0.8	0	GND
Q3204	0	12.8	0
Q3205	0	12.8	0
Q3206	15.2	0	15.3
Q3207	12.8	0	12.8
Q3208	0	7.0	0
Q3209	0.9	0.2	0
Q3210	0	0.8	GND

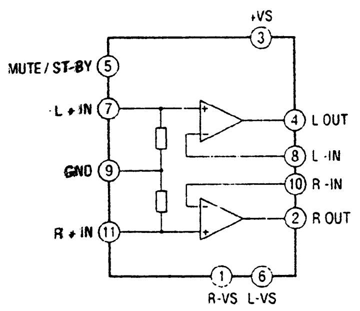
All Voltage are in V.

A BOARD IC VOLTAGE LIST

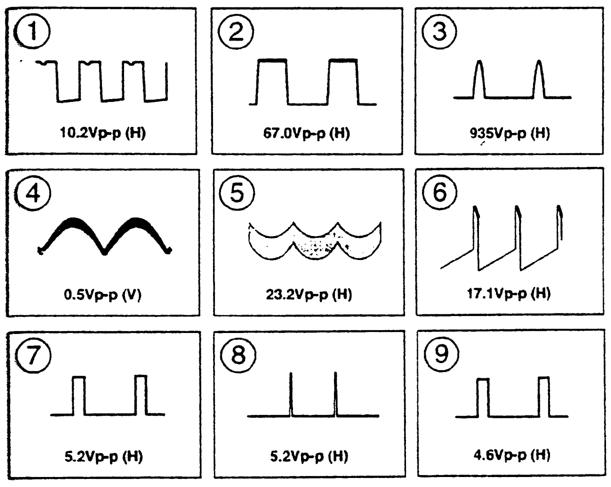
IC1001	1	6.2
	2	5.3
	3	GND
	4	6.2
IC1002	1	6.2
	2	5.3
	3	GND
	4	6.2
IC1003	1	13.6
	2	12.8
	3	GND
	4	13.6
IC1004	1	13.8
	2	9.5
	3	GND
	4	13.8
IC1005	I	-15.0
	G	GND
	O	-12.8
IC1006	I	8.3
	G	GND
	O	5.3
IC3201	1	-23.2
	2	0
	3	23.3
	4	0
	5	14.1
	6	-23.2
	7	0
	8	0
	9	GND
	10	0
	11	0

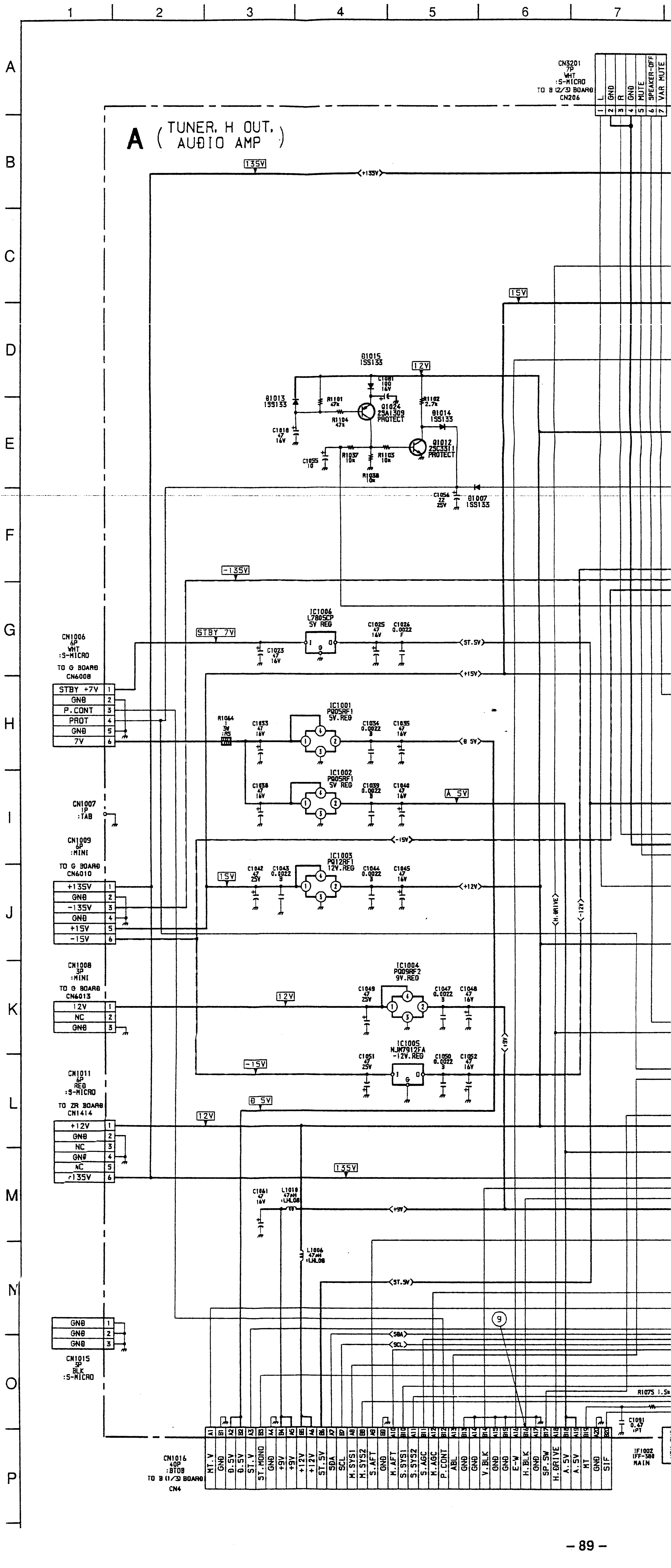
All Voltage are in V.

A BOARD : IC3201 TDA7265

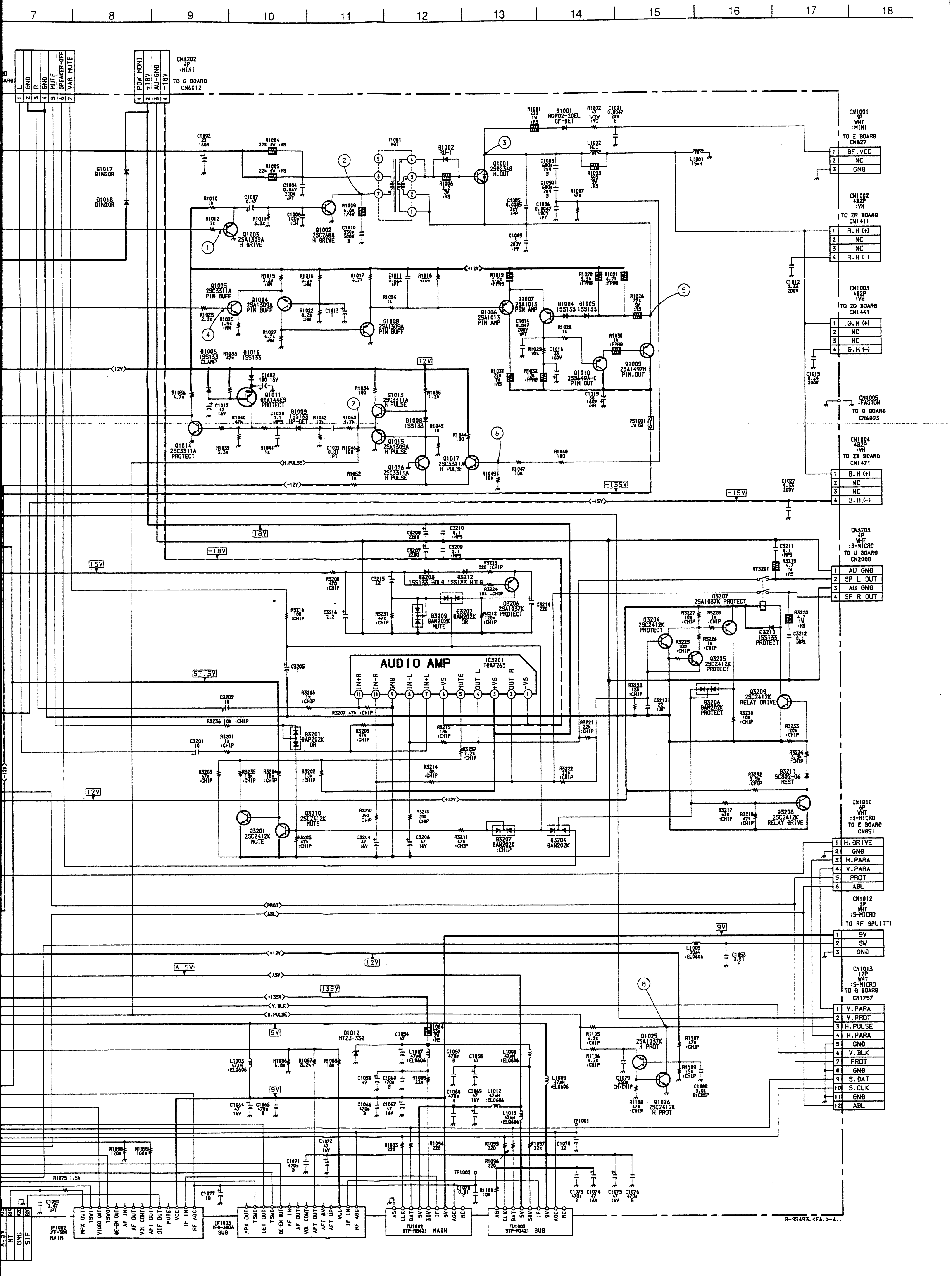

+VS
③
MUTE / ST-BY ⑤
+L + IN ⑦
GND ⑨
R + IN ⑪
④ L OUT
⑧ L -IN
⑩ R -IN
② R OUT
① ⑥
R-VS L-VS

• A BOARD WAVEFORMS



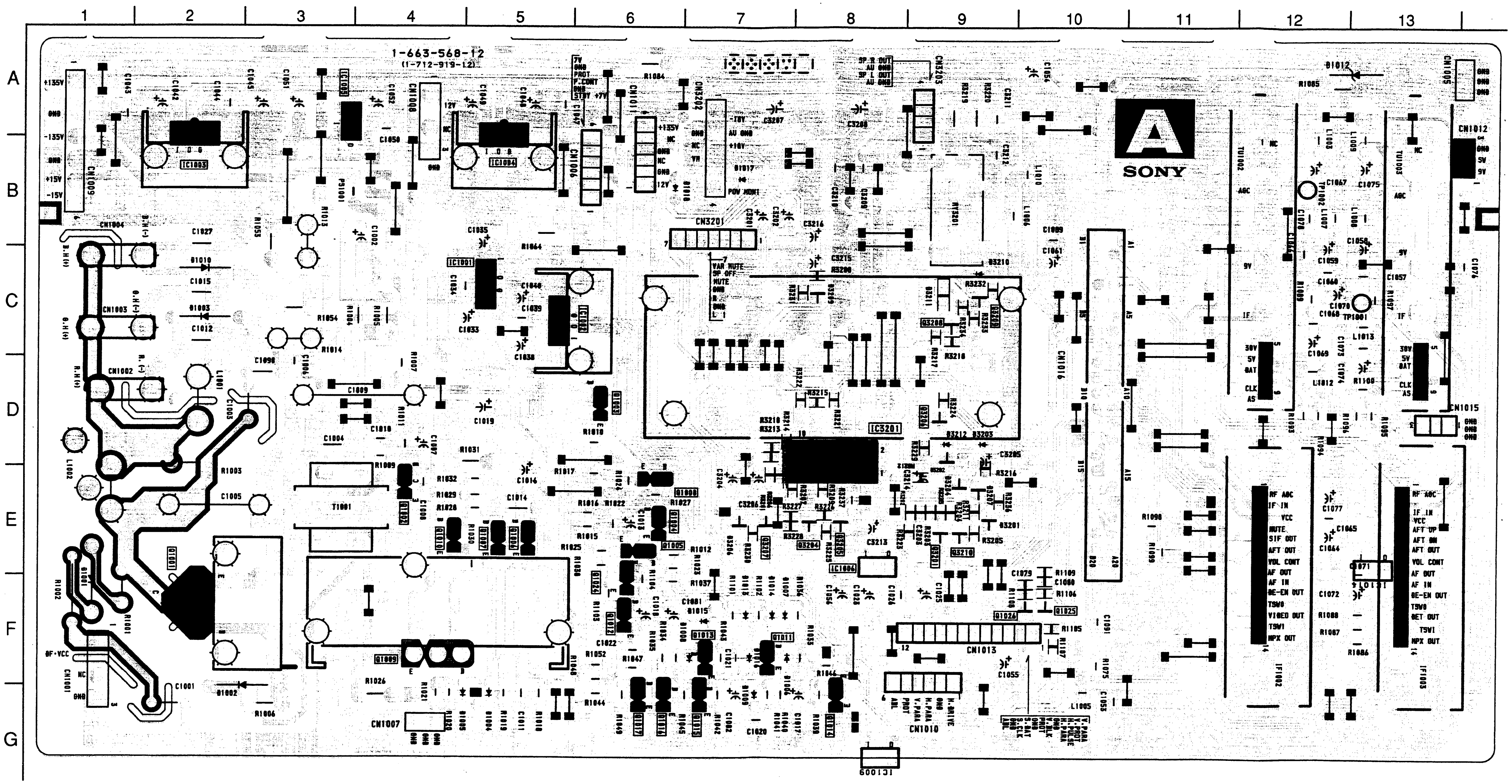

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
A (TUNER, H OUT, AUDIO AMP)
CN3201 7P WHT :S-MICRO TO B (2/3) BOARD CN206
L
GND
R
GND
MUTE
SPEAKER-OFF
VAR MUTE
135V
+135V
15V
12V
D1015 1SS133
D1013 1SS133
R1101 47k
C1081 100 16V
Q1024 2SA1309 PROTECT
R1102 2.7k
D1014 1SS133
R1104 47k
C1018 47 16V
C1055 10
R1037 10k
R1103 10k
Q1012 2SC3311 PROTECT
R1038 10k
C1054 22 25V
D1007 1SS133
-135V
IC1006 L7805CP 5V REG
STBY 7V
C1025 47 16V
C1026 0.0022 F
C1023 47 16V
ST.5V
+15V
CN1006 6P WHT :S-MICRO TO G BOARD CN6008
STBY +7V
GND
P.CONT
PROT
GND
7V
R1064 1 5W :RS
IC1001 PQ05RF1 5V.REG
C1033 47 16V
C1034 0.0022 B
C1035 47 16V
B 5V
IC1002 PQ05RF1 5V REG
C1038 47 16V
C1039 0.0022 B
C1040 47 16V
A 5V
CN1007 1P :TAB
-15V
CN1009 6P :MINI TO G BOARD CN6010
+135V
GND
-135V
GND
+15V
-15V
IC1003 PQ12RF1 12V.REG
C1042 47 25V
C1043 0.0022 B
C1044 0.0022 B
C1045 47 16V
+12V
H.DRIVE
12V
CN1008 3P :MINI TO G BOARD CN6013
12V
NC
GND
IC1004 PQ09RF2 9V.REG
C1049 47 25V
C1047 0.0022 B
C1048 47 16V
9V
IC1005 NJM7912FA -12V.REG
C1051 47 25V
C1050 0.0022 B
C1052 47 16V
CN1011 6P RED :S-MICRO TO ZR BOARD CN1414
+12V
GND
NC
GND
NC
-135V
C1061 47 16V
L1019 47μH :LHL08
+9V
L1006 47μH :LHL08
ST.5V
9
SDA
SCL
GND
CN1015 3P BLK :S-MICRO
R1075 1.5k
C1091 0.47 :PT
IF1002 IFF-388 MAIN
CN1016 40P :BT08 TO B (1/3) BOARD CN4
MT.V
GND
B.5V
B.5V
ST.V
ST.MONO
GND
+9V
+9V
+12V
+12V
ST.5V
SDA
SCL
M.SYS1
M.SYS2
S.AFT
GND
M.AFT
S.SYS1
S.SYS2
S.AGC
M.AGC
P.CONT
ABL
GND
GND
V.BLK
GND
GND
E-W
H.BLK
GND
SP.SW
H.DRIVE
A.5V
A.5V
MT
GND
SIF

diagrams
→


7
8
9
10
11
12
13
14
15
16
17
18
CN3202 4P :MINI TO G BOARD CN6012
1 POW MONI
2 +18V
3 AU-GND
4 -18V
L
GND
R
MUTE
SPEAKER-OFF
VAR MUTE
D1017 D1N20R
D1018 D1N20R
C1002 22 160V
R1004 22k 3W :RS
R1005 22k 3W :RS
T1001 HDT
D1002 RU-1
Q1001 2SD2348 H.OUT
R1001 220 1W :RS
D1001 RGP02-20EL DF-DET
R1002 47 1/2W :RC
C1001 0.0047 2kV
L1002 HLC
R1003 390 3W :RS
L1001 15mH
Q1003 2SA1309A H DRIVE
Q1002 2SC2688 H DRIVE
Q1005 2SC3311A PIN BUFF
Q1004 2SA1309A PIN BUFF
Q1008 2SA1309A PIN BUFF
Q1006 2SA1013 PIN AMP
Q1007 2SA1013 PIN AMP
D1004 1SS133
D1005 1SS133
Q1009 2SA1492N PIN.OUT
Q1010 2SB649A-C PIN OUT
D1006 1SS133 CLAMP
D1016 1SS133
Q1011 DTA144ES PROTECT
D1009 1SS133 HP-DET
Q1013 2SC3311A H PULSE
D1008 1SS133
Q1015 2SA1309A H PULSE
Q1016 2SC3311A H PULSE
Q1017 2SC3311A H PULSE
Q1014 2SC3311A PROTECT
PS1001 3A
(+12V)
(-12V)
(H.PULSE)
(-15V)
12V
-135V
-15V
18V
-18V
15V
ST.5V
12V
A 5V
135V
9V
CN1001 3P WHT :MINI TO E BOARD CN827
1 DF.VCC
2 NC
3 GND
CN1002 4P :VH TO ZR BOARD CN1411
1 R.H (+)
2 NC
3 NC
4 R.H (-)
CN1003 4P :VH TO ZG BOARD CN1441
1 G.H (+)
2 NC
3 NC
4 G.H (-)
CN1005 :FASTON TO G BOARD CN6003
CN1004 4P :VH TO ZB BOARD CN1471
1 B.H (+)
2 NC
3 NC
4 B.H (-)
CN3203 4P WHT :S-MICRO TO U BOARD CN2008
1 AU GND
2 SP L OUT
3 AU GND
4 SP R OUT
RY3201
Q3207 2SA1037K PROTECT
Q3204 2SC2412K PROTECT
Q3205 2SC2412K PROTECT
Q3210 1SS133 PROTECT
Q3206 DAN202K PROTECT
Q3209 2SC2412K RELAY DRIVE
Q3211 SC802-06 REST
Q3208 2SC2412K RELAY DRIVE
D3203 1SS133 HOLD
D3212 1SS133 HOLD
D3209 DAN202K MUTE
D3202 DAN202K OR
Q3206 2SA1037K PROTECT
AUDIO AMP
IC3201 TDA7265
IN+R
IN-R
GND
IN-L
IN+L
-VS
MUTE
OUT L
+VS
OUT R
-VS
D3201 DAP202K OR
Q3210 2SC2412K MUTE
Q3201 2SC2412K MUTE
D3207 DAN202K
D3204 DAN202K
CN1010 6P WHT :S-MICRO TO E BOARD CN851
1 H.DRIVE
2 GND
3 H.PARA
4 V.PARA
5 PROT
6 ABL
CN1012 3P WHT :S-MICRO TO RF SPLITTI
1 9V
2 SW
3 GND
CN1013 12P WHT :S-MICRO TO G BOARD CN1757
1 Y.PARA
2 V.PROT
3 H.PULSE
4 H.PARA
5 GND
6 V.BLK
7 PROT
8 GND
9 S.DAT
10 S.CLK
11 GND
12 ABL
(PROT)
(ABL)
(+12V)
(A5V)
(+135V)
(V.BLK)
(H.PULSE)
D1012 MTZJ-330
Q1025 2SA1037K H PROT
Q1026 2SC2412K H PROT
TP1001
TP1002
IF1002 IFF-380 MAIN
MPX OUT
TSW1
VIDEO OUT
TSW0
DE-EM OUT
AF IN
AF OUT
VOL CONT
SIF OUT
MUTE
VCC
IF IN
RF AGC
IF1003 IFD-380A SUB
TU1002 BTP-RB421 MAIN
TU1003 BTP-RB421 SUB
ASC
CLK
DAT
5V
30V
IF
9V
AGC
NC
B-SS493.<EA.>-A..
①
②
③
④
⑤
⑥
⑦
⑧

A [TUNER, H OUT, AUDIO AMP]

- A BOARD -


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
1-663-568-12
(1-712-919-12)
SONY
TU1002
TU1003
IF1002
IF1003
CN1009
CN1004
CN1003
CN1002
CN1001
CN1006
CN1011
CN3202
CN3203
CN3201
CN1016
CN1013
CN1010
CN1007
CN1015
CN1012
CN1005
IC1001
IC1002
IC1003
IC1004
IC1005
IC1006
IC3201
IC1009
Q1001
T1001
PS1001
RY3201

A BOARD

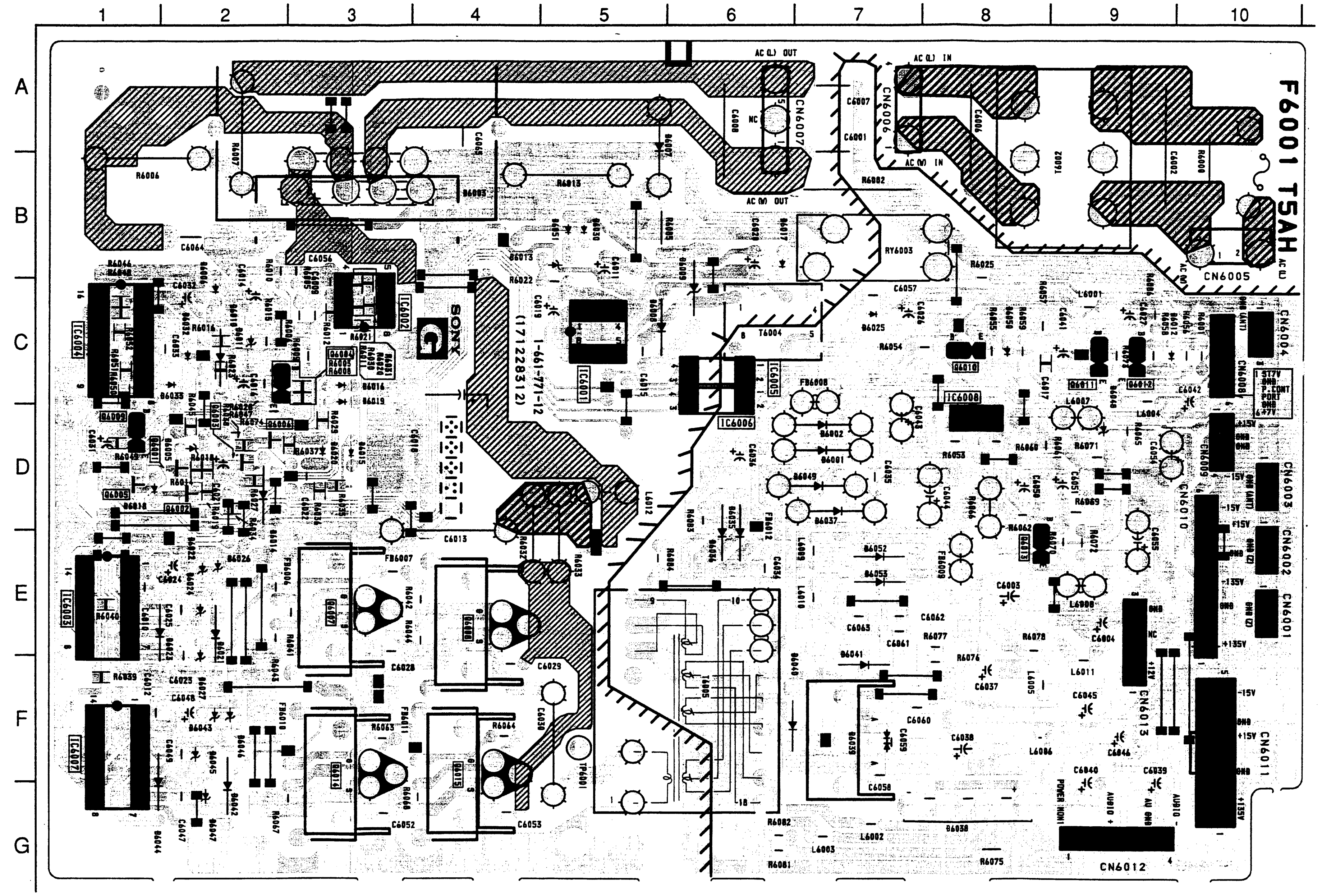
DIODE		*	D1018	B-6	–	IC1005	A-3		Q1013	F-7	–
D1001	F-1	–	D3201	E-9	⑩	IC1006	E-8		Q1014	G-8	–
D1002	G-2	–	D3202	D-9	⑧	IC3201	D-8		Q1015	G-7	–
D1003	C-2	–	D3203	D-9	–	**TRANSISTOR**		*	Q1016	G-6	–
D1004	G-5	–	D3204	E-9	⑧	Q1001	F-2	–	Q1017	G-6	–
D1005	G-4	–	D3206	E-7	⑧	Q1002	E-4	–	Q1024	F-6	–
D1006	F-7	–	D3207	E-9	⑧	Q1003	D-6	–	Q1025	F-10	①
D1007	F-7	–	D3209	C-8	⑧	Q1004	E-6	–	Q1026	F-10	①
D1008	F-7	–	D3210	C-9	–	Q1005	E-6	–	Q3201	E-9	①
D1009	G-7	–	D3211	C-9	③	Q1006	E-5	–	Q3204	E-8	①
D1012	A-12	–	D3212	D-9	–	Q1007	E-5	–	Q3205	E-8	①
D1013	F-7	–	**IC**			Q1008	E-6	–	Q3206	D-9	①
D1014	F-7	–	IC1001	C-5		Q1009	F-4	–	Q3207	E-7	①
D1015	F-7	–	IC1002	C-5		Q1010	E-4	–	Q3208	C-9	①
D1016	F-7	–	IC1003	B-2		Q1011	F-7	–	Q3209	C-9	①
D1017	B-7	–	IC1004	A-5		Q1012	F-6	–	Q3210	E-9	①

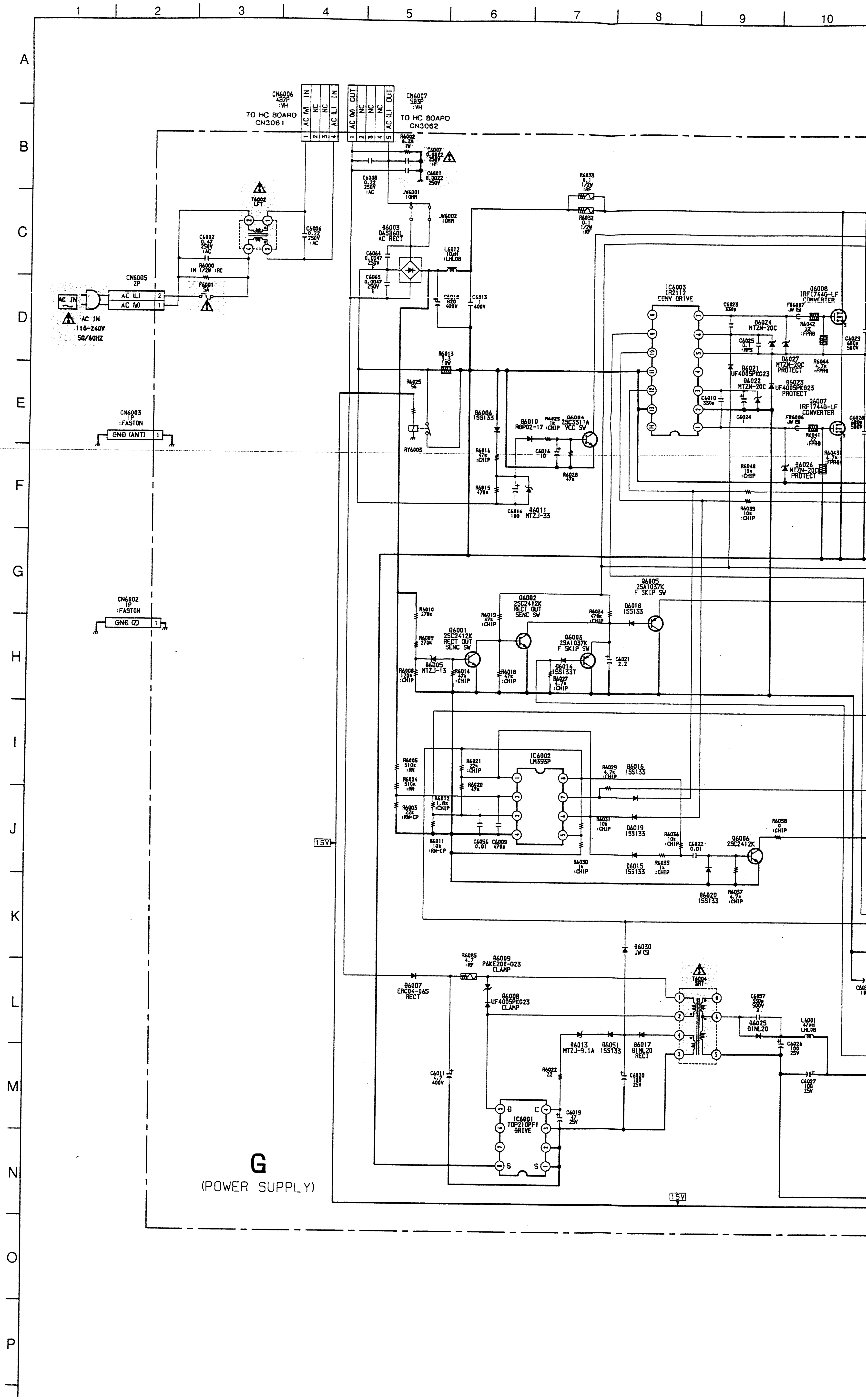
G [POWER SUPPLY]

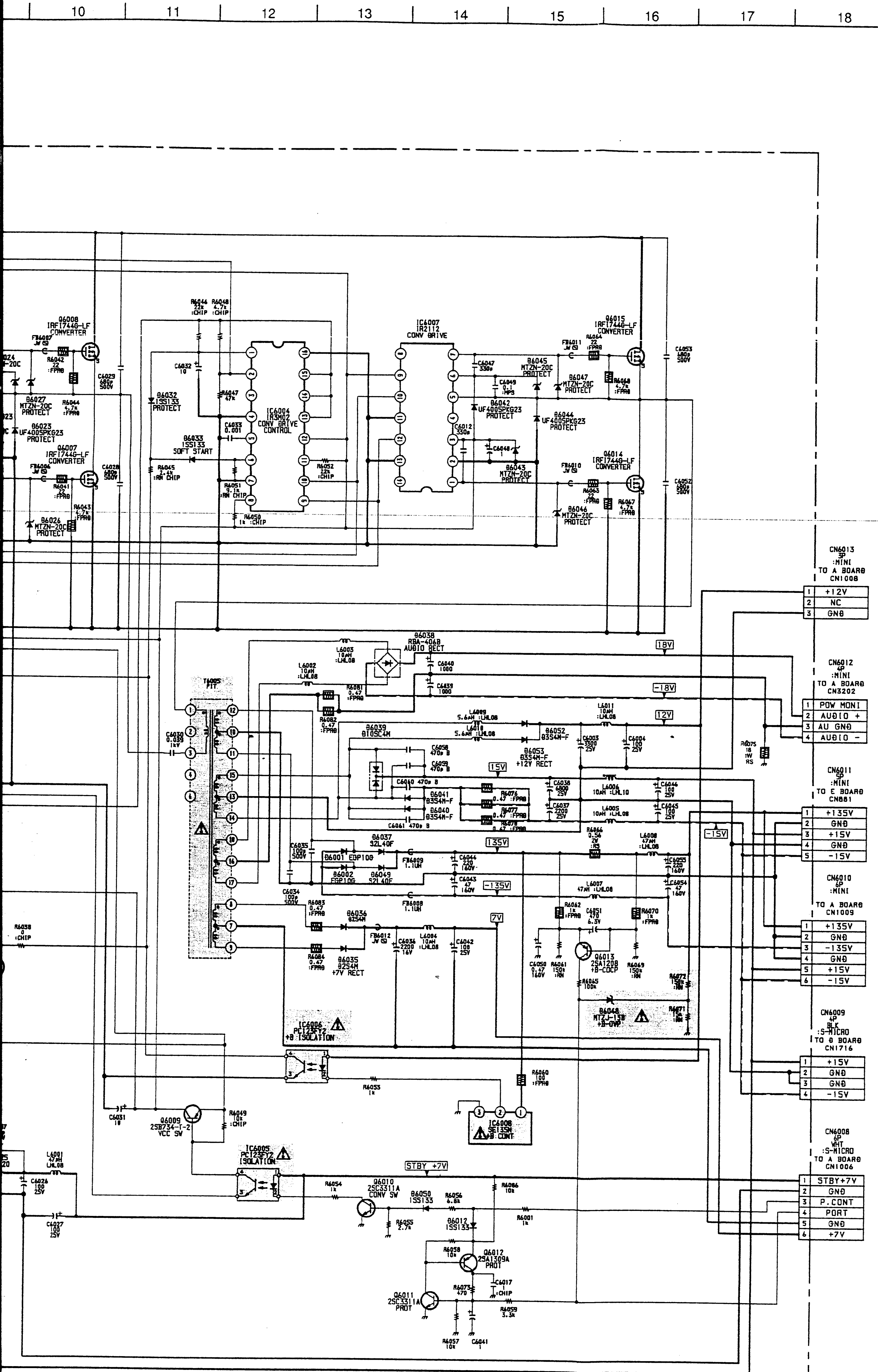
– G BOARD –

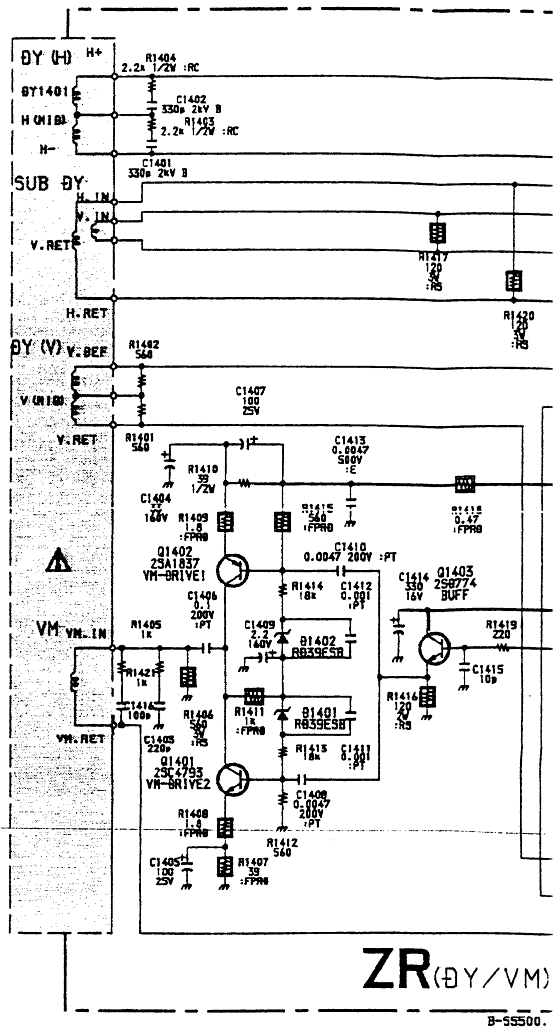
G BOARD

DIODE		*	D6042	G-2	–
D6001	D-7	–	D6043	F-2	–
D6002	D-7	–	D6044	F-1	–
D6003	B-3	–	D6045	F-2	–
D6005	D-2	–	D6046	F-2	–
D6006	C-2	–	D6047	G-2	–
D6007	A-5	–	D6048	D-9	–
D6008	C-5	–	D6049	D-7	–
D6009	C-6	–	D6050	C-8	–
D6010	C-2	–	D6051	B-5	–
D6011	C-2	–	D6052	E-7	–
D6012	C-9	–	D6053	E-7	–
D6013	B-5	–	**I C**		
D6014	D-2	–	IC6001	C-5	
D6015	D-3	–	IC6002	C-3	
D6016	C-3	–	IC6003	E-1	
D6017	B-6	–	IC6004	C-1	
D6018	D-1	–	IC6005	C-6	
D6019	C-3	–	IC6006	C-6	
D6020	D-3	–	IC6007	F-1	
D6021	E-2	–	IC6008	D-8	
D6022	E-2	–	**TRANSISTOR**		*
D6023	E-1	–	Q6001	D-2	①
D6024	E-2	–	Q6002	D-2	①
D6025	C-7	–	Q6003	D-2	①
D6026	E-2	–	Q6004	C-2	–
D6027	E-2	–	Q6005	D-1	①
D6030	B-5	–	Q6006	D-2	①
D6032	C-2	–	Q6007	E-3	–
D6033	C-2	–	Q6008	E-4	–
D6035	E-6	–	Q6009	D-1	–
D6036	E-6	–	Q6010	C-8	–
D6037	D-7	–	Q6011	C-9	–
D6038	G-8	–	Q6012	C-9	–
D6039	F-7	–	Q6013	E-8	–
D6040	F-7	–	Q6014	F-3	–
D6041	F-7	–	Q6015	F-4	–


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
F6001 T5AH
CN6001
CN6002
CN6003
CN6004
CN6005
CN6006
CN6007
CN6008
CN6009
CN6010
CN6011
CN6012
CN6013
IC6001
IC6002
IC6003
IC6004
IC6005
IC6006
IC6007
IC6008
T6004
T6005
RY6003
TP6001
SONY
G
1-661-771-12
(171228312)
AC (L) IN
AC (N) IN
AC (L) OUT
AC (N) OUT
+135V
+15V
-15V
+12V
AUDIO +
AUDIO -
POWER MON1


G
(POWER SUPPLY)
AC IN
AC IN 110-240V 50/60HZ
CN6005 2P
AC (L)
AC (W)
F6001 5A
R6000 1M 1/2W :RC
C6002 0.47 250V :AC
T6002 LFT
C6006 0.22 250V :AC
CN6006 4B2P :VH
TO HC BOARD CN3061
AC (W) IN
NC
NC
AC (L) IN
CN6007 5B3P :VH
TO HC BOARD CN3062
AC (W) OUT
NC
NC
NC
AC (L) OUT
R6002 8.2M 1W
C6007 0.0022 250V :F
C6001 0.0022 250V
C6008 0.22 250V :AC
JW6001 10MM
JW6002 10MM
D6003 D6SB60L AC RECT
C6064 0.0047 250V E
C6065 0.0047 250V E
L6012 10µH :LHL08
C6018 820 400V
C6013 1 400V
R6013 3.3 10W
R6025 56
RY6003
CN6003 1P :FASTON
GND (ANT)
CN6002 1P :FASTON
GND (Z)
R6033 0.1 1/2W :RF
R6032 0.1 1/2W :RF
D6006 1SS133
D6010 RGP02-17
R6023 1k :CHIP
Q6004 2SC3311A VCC SW
C6016 10
R6016 47k :CHIP
R6028 47k
R6015 470k
C6014 100
D6011 MTZJ-33
IC6003 IR2112 CONV DRIVE
C6023 330p
C6025 0.1 :MPS
D6024 MTZN-20C
D6021 UF4005PKG23
D6022 MTZN-20C
C6010 330p
C6024 1
D6023 UF4005PKG23 PROTECT
D6027 MTZN-20C PROTECT
FB6007 JW (5)
R6042 22 :FPRB
R6044 4.7k :FPRB
Q6008 IRFI744G-LF CONVERTER
C6029 680p 500V
Q6007 IRFI744G-LF CONVERTER
C6028 680p 500V
FB6006 JW (5)
R6041 22 :FPRB
R6043 4.7k :FPRB
D6026 MTZN-20C PROTECT
R6040 10k :CHIP
R6039 10k :CHIP
R6010 270k
R6009 270k
R6008 120k :CHIP
D6005 MTZJ-13
Q6001 2SC2412K RECT OUT SENC SW
R6014 47k :CHIP
R6019 47k :CHIP
Q6002 2SC2412K RECT OUT SENC SW
R6018 47k :CHIP
Q6003 2SA1037K F SKIP SW
D6014 1SS133T
R6027 4.7k :CHIP
R6034 470k :CHIP
D6018 1SS133
Q6005 2SA1037K F SKIP SW
C6021 2.2
R6005 510k :RN
R6004 510k :RN
R6003 22k :RN-CP
R6012 1.8k :CHIP
R6021 22k :CHIP
R6020 47k
IC6002 LM393P
R6011 10k :RN-CP
C6056 0.01
C6009 470p
R6029 4.7k :CHIP
D6016 1SS133
R6031 10k :CHIP
D6019 1SS133
R6030 1k :CHIP
D6015 1SS133
R6035 1k :CHIP
R6036 10k :CHIP
C6022 0.01
D6020 1SS133
R6037 4.7k :CHIP
R6038 0 :CHIP
Q6006 2SC2412K
15V
D6030 JW (5)
R6085 4.7 :RF
D6009 P6KE200-G23 CLAMP
D6007 ERC04-06S RECT
D6008 UF4005PKG23 CLAMP
C6011 4.7 400V
T6004 SRT
D6013 MTZJ-9.1A
D6051 1SS133
D6017 D1NL20 RECT
R6022 22
C6020 100 25V
C6019 47 25V
IC6001 TOP210PFI DRIVE
D
C
S
S
C6057 330p 500V B
D6025 D1NL20
L4001 47µH LHL08
C6026 100 25V
C6027 100 25V
15V
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P


10
11
12
13
14
15
16
17
18
19
20
21
22
IC6007 IR2112 CONV DRIVE
IC6004 IR3M02 CONV DRIVE CONTROL
Q6008 IRFI744G-LF CONVERTER
Q6007 IRFI744G-LF CONVERTER
Q6015 IRFI744G-LF CONVERTER
Q6014 IRFI744G-LF CONVERTER
T6005 FIT
IC6006 PC123FY2 +B ISOLATION
IC6005 PC123FY2 ISOLATION
IC6008 SE135N +B CONT
Q6009 2SB734-T-2 VCC SW
Q6010 2SC3311A CONV SW
Q6011 2SC3311A PROT
Q6012 2SA1309A PROT
Q6013 2SA1208 +B-OCP
D6048 MTZJ-15B +B-OVP
D6038 RBA-406B AUDIO RECT
D6053 D3S4M-F +12V RECT
D6035 D2S4M +7V RECT
CN6013 3P :MINI TO A BOARD CN1008
+12V
NC
GND
CN6012 4P :MINI TO A BOARD CN3202
POW MONI
AUDIO +
AU GND
AUDIO −
CN6011 5P :MINI TO E BOARD CN881
+135V
GND
+15V
GND
−15V
CN6010 6P :MINI TO A BOARD CN1009
+135V
GND
−135V
GND
+15V
−15V
CN6009 4P BLK :S-MICRO TO D BOARD CN1716
+15V
GND
GND
−15V
CN6008 6P WHT :S-MICRO TO A BOARD CN1006
STBY+7V
GND
P.CONT
PORT
GND
+7V
18V
−18V
12V
15V
135V
−135V
−15V
7V
STBY +7V
B-55493.<EA.>-G..


DY (H)
DY1401
H (H/B)
SUB DY
H.IN
V.IN
V.RET
H.RET
DY (V)
V.REF
V (H/B)
V.RET
VM
VM.IN
VM.RET
Q1402 2SA1837 VM-DRIVE1
Q1401 2SC4793 VM-DRIVE2
Q1403 2SB774 BUFF
ZR(DY/VM)
B-55500.

G BOARD IC VOLTAGE LIST

• IC6001	1	GND		8	16.0
	2	GND		9	7.0
	3	GND		10	6.9
	4	6.0		11	16.0
	5	260.0		12	16.0
	8	GND		13	5.4
• IC6002	1	13.3		14	5.4
	2	2.7		15	5.4
	3	4.6		16	GND
	4	GND	IC6005	1	8.3
	5	1.4		2	7.1
	6	13.3		• 3	15.1
	7	0		• 4	15.3
	8	14.9	IC6006	1	13.8
• IC6003	1	6.2		2	12.8
	2	GND		• 3	GND
	3	16.0		• 4	2.9
	5	130.0	• IC6007	1	6.9
	6	146.0		2	GND
	7	137.0		3	16.0
	9	16.1		5	130.0
	10	6.3		6	146.0
	11	GND		7	137.0
	12	6.1		9	16.0
	13	GND		10	6.9
IC6004	1	3.9		11	GND
	2	4.9		12	6.9
	4	GND		13	GND
	5	1.7	IC6008	1	141
	6	3.9		2	12.3
	7	GND		3	GND

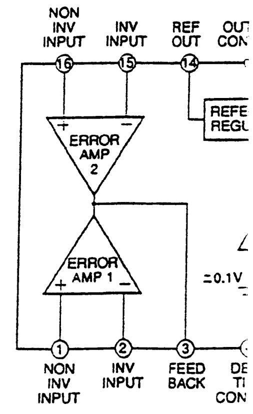
All Voltage are in V.
Pin numbers which are not described are not used.
• : The figures in the parenthesis are the voltages difference from primary side ground.

G BOARD
TRANSISTOR VOLTAGE

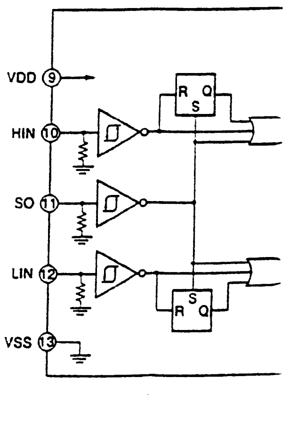
	B	C	E
• Q6001	0.8	0	GND
• Q6002	0	15.4	GND
• Q6003	*	GND	15.4
• Q6004	0	4.9	GND
• Q6005	3.9	GND	2.9
• Q6006	0	2.8	GND
• Q6009	15.3	16.0	16.1
Q6010	0.8	0.2	GND
Q6011	0	8.3	GND
Q6012	8.3	0	8.3
Q6013	140.5	0	140.7
	S	G	D
• Q6007	GND	6.2	62.8
• Q6008	130.0	136.0	259.0
• Q6014	GND	6.8	130.0
• Q6015	130.0	136.0	259.0

All Voltage are in V.
• : The figures in the parenthesis are the difference from primary side grounc
∗ : Can not measured.

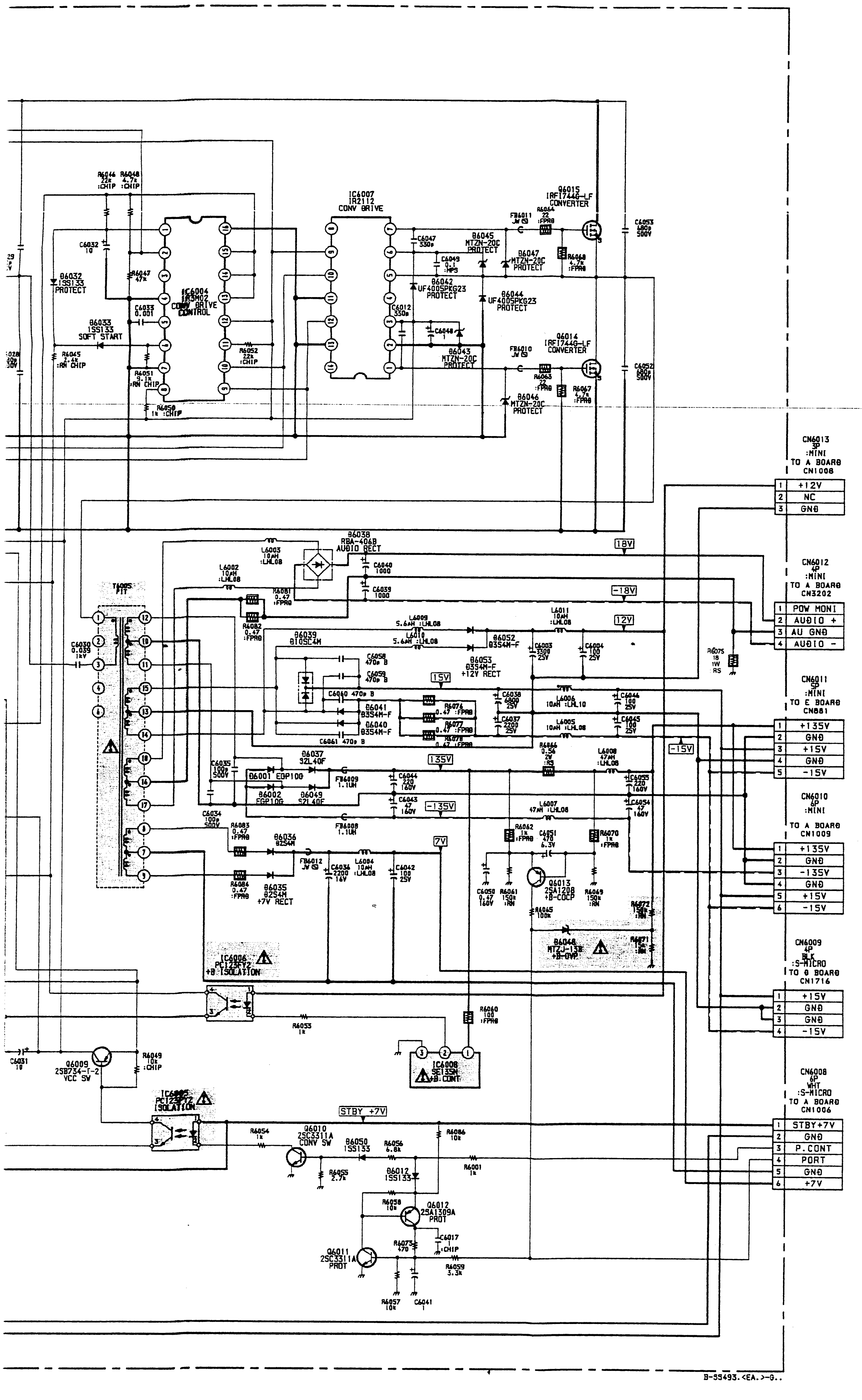
G BOARD : IC6004

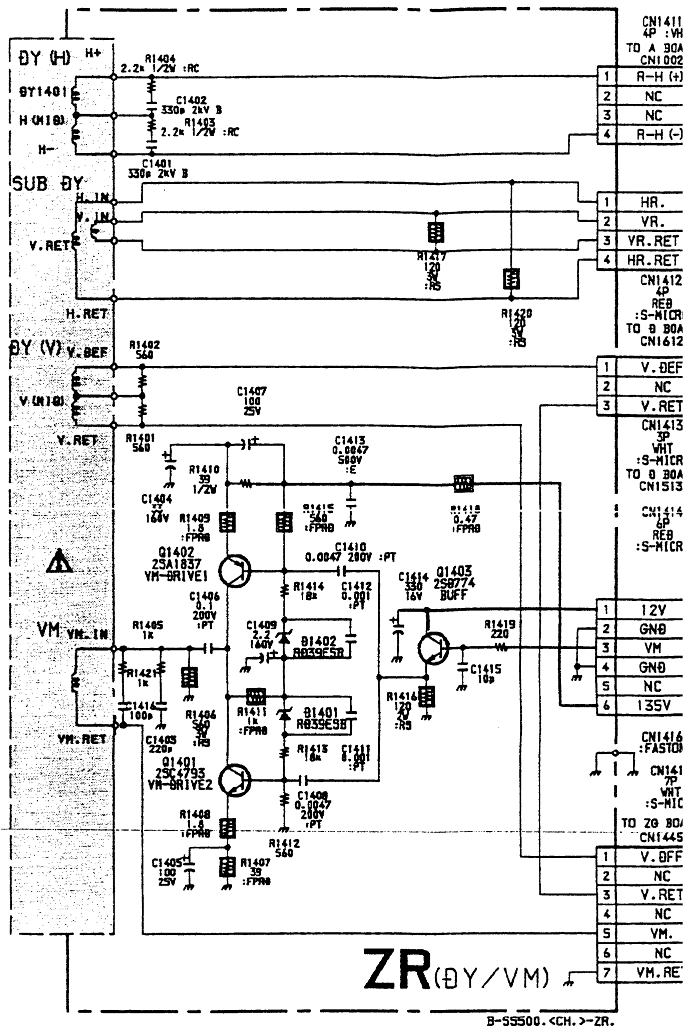

NON INV INPUT
INV INPUT
REF OUT
OUT CON
16
15
14
REFE REGU
ERROR AMP 2
ERROR AMP 1
=0.1V
1
2
3
NON INV INPUT
INV INPUT
FEED BACK
DE T CON

G BOARD : IC6003,


VDD 9
HIN 10
SO 11
LIN 12
VSS 13
R S Q
S R Q

11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22


IC6007
IR2112
CONV DRIVE
IC6004
IR3M02
CONV DRIVE CONTROL
Q6015
IRFI744G-LF
CONVERTER
Q6014
IRFI744G-LF
CONVERTER
D6045 MTZN-20C PROTECT
D6047 MTZN-20C PROTECT
D6042 UF4005PKG23 PROTECT
D6044 UF4005PKG23 PROTECT
D6043 MTZN-20C PROTECT
D6046 MTZN-20C PROTECT
D6032 1SS133 PROTECT
D6033 1SS133 SOFT START
C6053 680p 500V
C6052 680p 500V
T6005 PIT
D6038 RBA-406B AUDIO RECT
D6039 D10SC4M
D6052 D3S4M-F
D6053 D3S4M-F +12V RECT
D6041 D3S4M-F
D6040 D3S4M-F
D6037 S2L40F
D6001 EGP10G
D6002 EGP10G
D6049 S2L40F
D6036 D2S4M
D6035 D2S4M +7V RECT
Q6013 2SA1208 +B-COCP
D6048 MTZJ-13B +B-OVP
IC6006 PC123FY2 +B ISOLATION
IC6008 SE135N +B CONT
Q6009 2SB734-T-2 VCC SW
IC6005 PC123FY2 ISOLATION
Q6010 2SC3311A CONV SW
D6050 1SS133
D6012 1SS133
Q6012 2SA1309A PROT
Q6011 2SC3311A PROT
18V
-18V
12V
15V
-15V
135V
-135V
7V
STBY +7V
CN6013 3P :MINI TO A BOARD CN1008
1 +12V
2 NC
3 GND
CN6012 4P :MINI TO A BOARD CN3202
1 POW MONI
2 AUDIO +
3 AU GND
4 AUDIO -
CN6011 5P :MINI TO E BOARD CN881
1 +135V
2 GND
3 +15V
4 GND
5 -15V
CN6010 6P :MINI TO A BOARD CN1009
1 +135V
2 GND
3 -135V
4 GND
5 +15V
6 -15V
CN6009 4P BLK :S-MICRO TO D BOARD CN1716
1 +15V
2 GND
3 GND
4 -15V
CN6008 6P WHT :S-MICRO TO A BOARD CN1006
1 STBY+7V
2 GND
3 P.CONT
4 PORT
5 GND
6 +7V
B-SS493.<EA.>-G..


DY (H)
DY1401
H (MID)
SUB DY
H.IN
V.IN
V.RET
H.RET
DY (V)
V.DEF
V (MID)
V.RET
VM
VM.IN
VM.RET
Q1402 2SA1837 VM-DRIVE1
Q1401 2SC4793 VM-DRIVE2
Q1403 2SB774 BUFF
D1402 RD39ESB
D1401 RD39ESB
CN1411 4P :VH TO A BOARD CN1002
1 R-H (+)
2 NC
3 NC
4 R-H (-)
1 HR.
2 VR.
3 VR.RET
4 HR.RET
CN1412 4P RED :S-MICRO TO D BOARD CN1612
1 V.DEF
2 NC
3 V.RET
CN1413 3P WHT :S-MICRO TO D BOARD CN1513
CN1414 6P RED :S-MICRO
1 12V
2 GND
3 VM
4 GND
5 NC
6 135V
CN1416 :FASTON
CN1415 7P WHT :S-MICRO TO ZG BOARD CN1445
1 V.DEF
2 NC
3 V.RET
4 NC
5 VM.
6 NC
7 VM.RET
ZR(DY/VM)
B-SS500.<CH.>-ZR.

G BOARD IC VOLTAGE LIST

• IC6001	1	GND		8	16.0
	2	GND		9	7.0
	3	GND		10	6.9
	4	6.0		11	16.0
	5	260.0		12	16.0
	8	GND		13	5.4
• IC6002	1	13.3		14	5.4
	2	2.7		15	5.4
	3	4.6		16	GND
	4	GND	IC6005	1	8.3
	5	1.4		2	7.1
	6	13.3		• 3	15.1
	7	0		• 4	15.3
	8	14.9	IC6006	1	13.8
• IC6003	1	6.2		2	12.8
	2	GND		• 3	GND
	3	16.0		• 4	2.9
	5	130.0	• IC6007	1	6.9
	6	146.0		2	GND
	7	137.0		3	16.0
	9	16.1		5	130.0
	10	6.3		6	146.0
	11	GND		7	137.0
	12	6.1		9	16.0
	13	GND		10	6.9
IC6004	1	3.9		11	GND
	2	4.9		12	6.9
	4	GND		13	GND
	5	1.7	IC6008	1	141
	6	3.9		2	12.3
	7	GND		3	GND

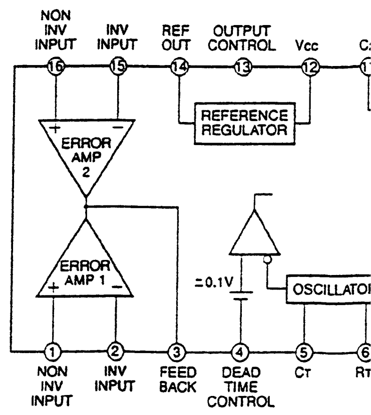
All Voltage are in V.
Pin numbers which are not described are not used.
• : The figures in the parenthesis are the voltages difference from primary side ground.

G BOARD
TRANSISTOR VOLTAGE LIST

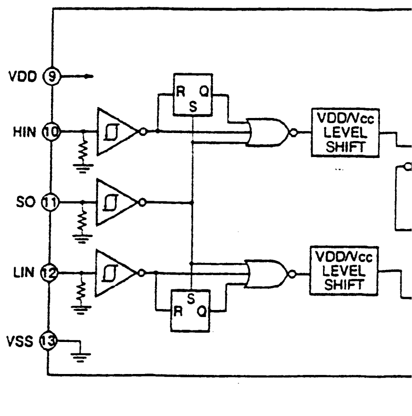
	B	C	E
• Q6001	0.8	0	GND
• Q6002	0	15.4	GND
• Q6003	*	GND	15.4
• Q6004	0	4.9	GND
• Q6005	3.9	GND	2.9
• Q6006	0	2.8	GND
• Q6009	15.3	16.0	16.1
Q6010	0.8	0.2	GND
Q6011	0	8.3	GND
Q6012	8.3	0	8.3
Q6013	140.5	0	140.7
	S	G	D
• Q6007	GND	6.2	62.8
• Q6008	130.0	136.0	259.0
• Q6014	GND	6.8	130.0
• Q6015	130.0	136.0	259.0

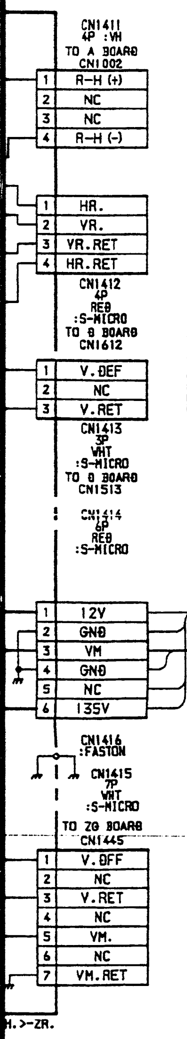
All Voltage are in V.
• : The figures in the parenthesis are the voltages difference from primary side ground.
* : Can not measured.

G BOARD : IC6004 IR3M02


NON INV INPUT
INV INPUT
REF OUT
OUTPUT CONTROL
Vcc
16
15
14
13
12
REFERENCE REGULATOR
ERROR AMP 2
ERROR AMP 1
=0.1V
OSCILLATO
1
2
3
4
5
6
NON INV INPUT
INV INPUT
FEED BACK
DEAD TIME CONTROL
CT
RT

G BOARD : IC6003, 6007 IR21

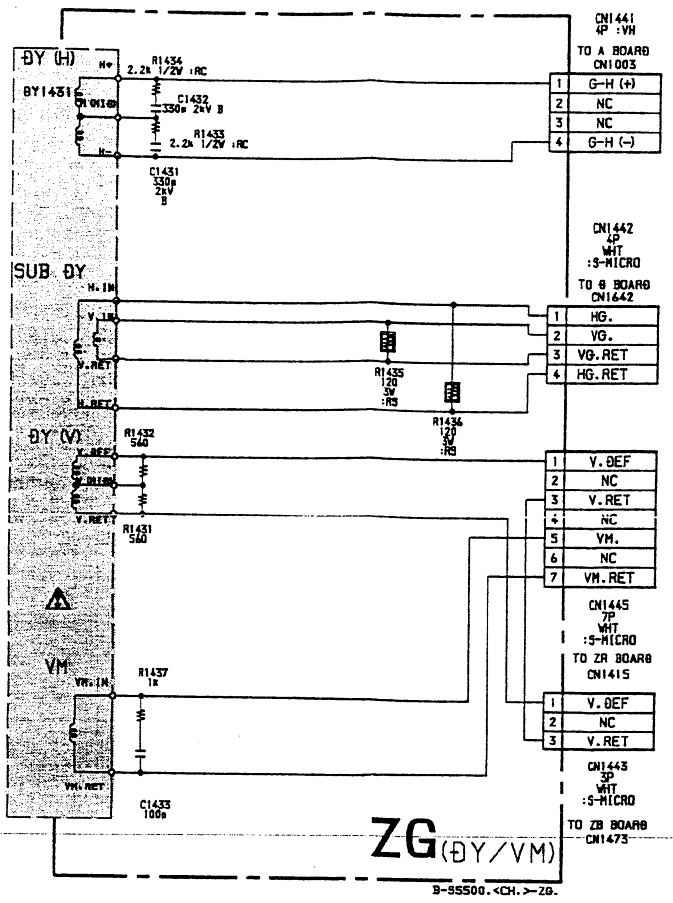

VDD 9
HIN 10
SO 11
LIN 12
VSS 13
R Q S
S R Q
VDD/Vcc LEVEL SHIFT
VDD/Vcc LEVEL SHIFT

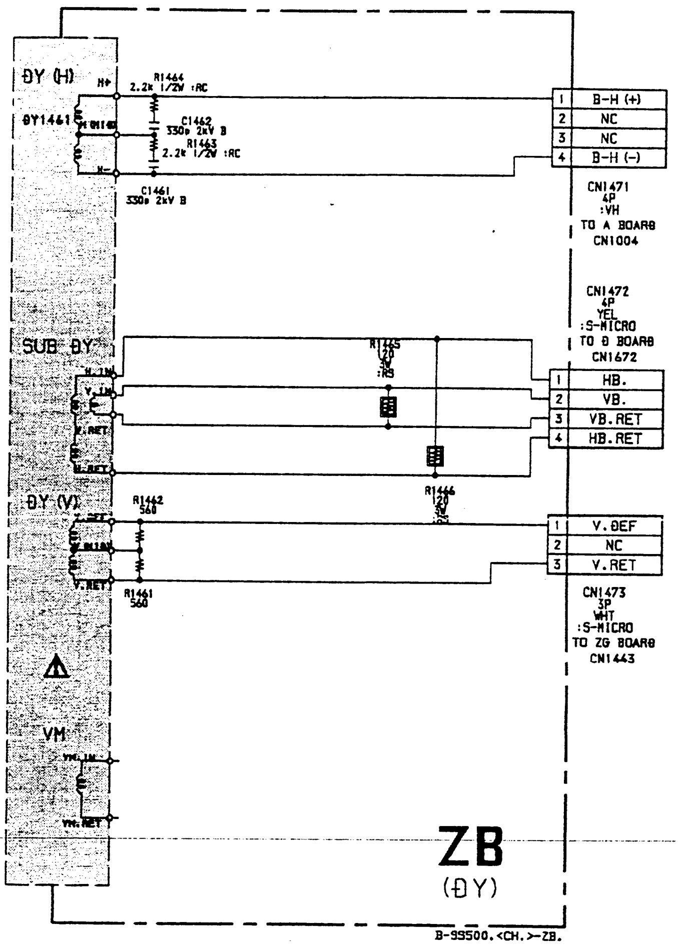

CN1411
4P :VH
TO A BOARD
CN1002
R-H (+)
NC
NC
R-H (-)
HR.
VR.
VR.RET
HR.RET
CN1412
4P
RED
:S-MICRO
TO B BOARD
CN1612
V.DEF
NC
V.RET
CN1413
3P
WHT
:S-MICRO
TO B BOARD
CN1513
CN1414
6P
RED
:S-MICRO
12V
GND
VM
GND
NC
135V
TO A BOARD CN1011
TO B (2/2) BOARD CN202
CN1416
:FASTON
CN1415
7P
WHT
:S-MICRO
TO ZG BOARD
CN1445
V.DEF
NC
V.RET
NC
VM.
NC
VM.RET
H.>-ZR.

ZR BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q1401	1.0	71.6	0.4
Q1402	140.5	71.6	141.1
Q1403	4.3	12.7	3.7

All Voltage are in V.

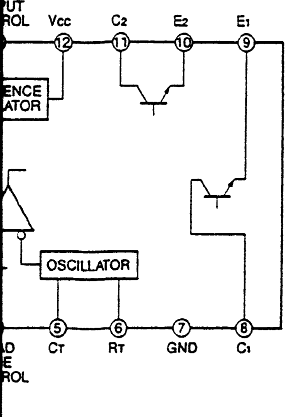

DY (H)
DY1431
R1434 2.2k 1/2W :RC
C1432 330p 2kV B
R1433 2.2k 1/2W :RC
C1431 330p 2kV B
CN1441
4P :VH
TO A BOARD
CN1003
G-H (+)
NC
NC
G-H (-)
SUB DY
CN1442
4P
WHT
:S-MICRO
TO B BOARD
CN1642
HG.
VG.
VG.RET
HG.RET
R1435 120 3W :RS
R1436 120 3W :RS
DY (V)
R1432 560
R1431 560
V.DEF
NC
V.RET
NC
VM.
NC
VM.RET
CN1445
7P
WHT
:S-MICRO
TO ZR BOARD
CN1415
VM
R1437 1k
C1433 100p
CN1443
3P
WHT
:S-MICRO
TO ZB BOARD
CN1473
ZG(DY/VM)
B-SS500.<CH.>-ZG.


DY (H)
DY1461
R1464 2.2k 1/2W :RC
C1462 330p 2kV B
R1463 2.2k 1/2W :RC
C1461 330p 2kV B
B-H (+)
NC
NC
B-H (-)
CN1471
4P
:VH
TO A BOARD
CN1004
SUB DY
R1465 120 3W :RS
CN1472
4P
YEL
:S-MICRO
TO B BOARD
CN1672
HB.
VB.
VB.RET
HB.RET
R1466 120 3W :RS
DY (V)
R1462 560
R1461 560
V.DEF
NC
V.RET
CN1473
3P
WHT
:S-MICRO
TO ZG BOARD
CN1443
VM
ZB
(DY)
B-SS500.<CH.>-ZB.

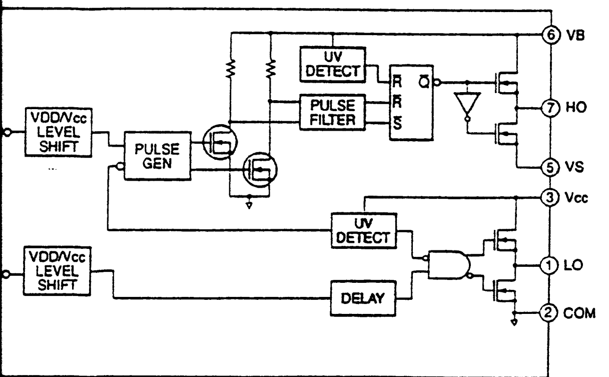
IST

ltages

R3M02

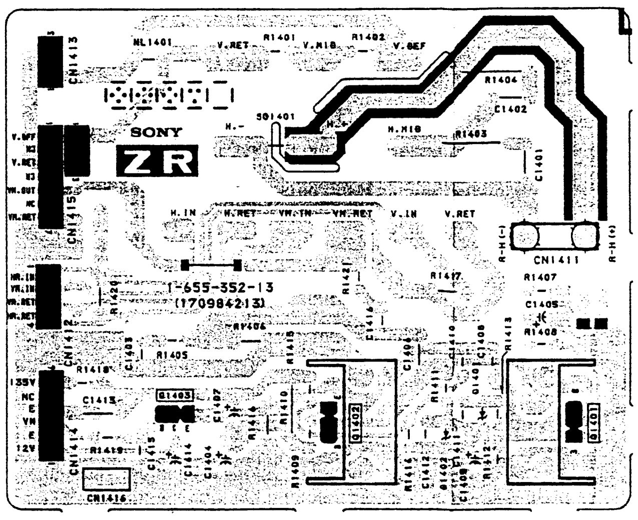

UT
ROL
Vcc
C2
E2
E1
12
11
10
9
ENCE
ATOR
OSCILLATOR
5
6
7
8
D
E
ROL
CT
RT
GND
C1

007 IR2112


UV DETECT
PULSE FILTER
R
R
S
Q
6 VB
7 HO
5 VS
3 Vcc
1 LO
2 COM
VDD/Vcc LEVEL SHIFT
PULSE GEN
UV DETECT
VDD/Vcc LEVEL SHIFT
DELAY

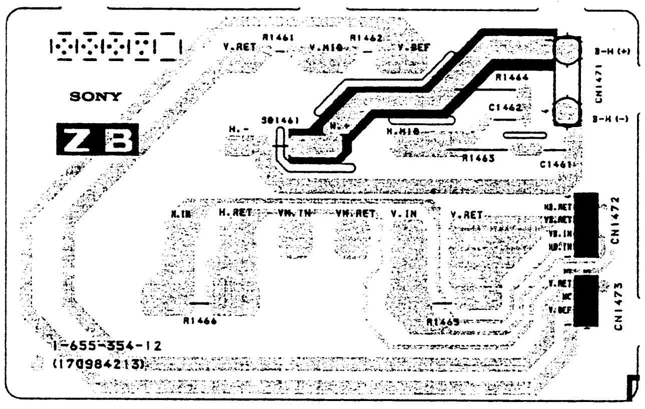
ZR [DY/VM]

- ZR BOARD -


CN1413
HL1401
V.RET
V.HID
V.DEF
R1401
R1402
R1404
C1402
SONY
ZR
SD1401
H.-
H.HID
R1403
C1401
H.IN
H.RET
V.IN
V.RET
CN1415
CN1411
R-H(-)
R-H(+)
R1407
R1417
C1405
R1408
1-655-352-13
(170984213)
CN1412
R1405
C1413
R1418
Q1403
Q1402
Q1401
CN1414
CN1416
135V
NC
VM
12V

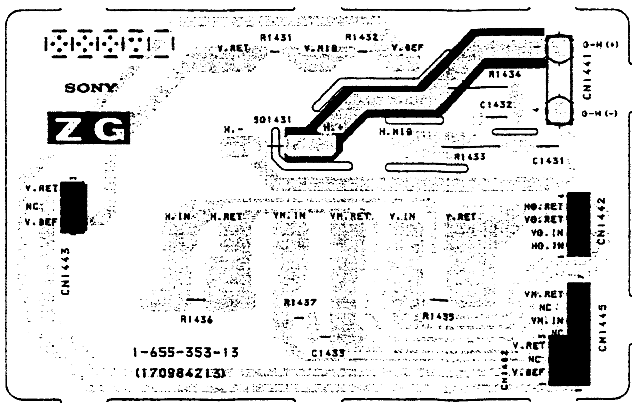
ZB [DY]

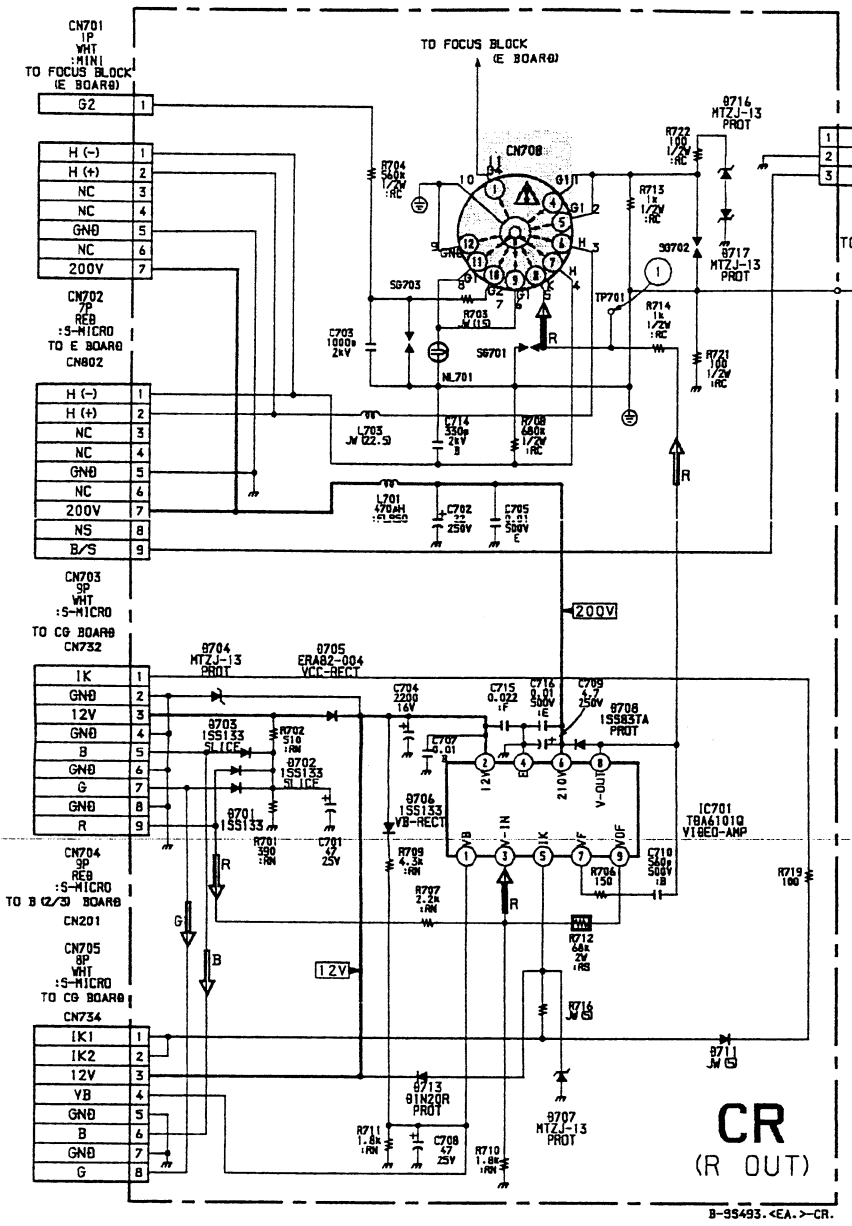
- ZB BOARD -

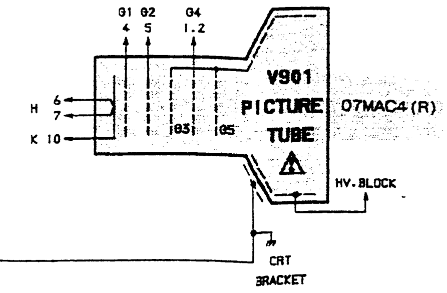

V.RET
V.HID
V.DEF
R1461
R1462
SONY
ZB
SD1461
R1464
C1462
H.-
H.HID
R1463
C1461
B-H(+)
B-H(-)
CN1471
H.IN
H.RET
VH.IN
VH.RET
V.IN
V.RET
CN1472
CN1473
R1466
R1465
1-655-354-12
(170984213)

ZG [DY/VM]

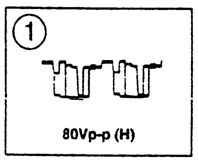
- ZG BOARD -


R1431
R1432
V.RET
V.HID
V.DEF
SONY
ZG
SD1431
R1434
C1432
H.-
H.HID
R1433
C1431
G-H(+)
G-H(-)
CN1441
V.RET
NC
V.DEF
CN1443
H.IN
H.RET
VM.IN
VM.RET
V.IN
V.RET
CN1442
CN1445
R1436
R1437
R1435
1-655-353-13
(170984213)
C1433


CN701 1P WHT :MINI TO FOCUS BLOCK (E BOARD)
G2
CN702 7P RED :S-MICRO TO E BOARD CN802
H (-)
H (+)
NC
GND
200V
CN703 9P WHT :S-MICRO TO CG BOARD CN732
NS
B/S
TO FOCUS BLOCK (E BOARD)
CN708
CN709 3P RED :S-MICRO TO B BOARD CN1509
R/S
E
CN706 :FASTON
TP701
SG701
SG702
SG703
NL701
L701 470μH
L703
D704 MTZJ-13 PROT
D705 ERA82-004 VCC-RECT
D706 1SS133 VB-RECT
D707 MTZJ-13 PROT
D708 1SS83TA PROT
D713 01N20R PROT
D714 MTZJ-13 PROT
D717 MTZJ-13 PROT
IC701 TDA6101Q VIDEO-AMP
V-IN
IK
VB
VDF
V-OUT
12V
210V
CN704 9P RED :S-MICRO TO B (2/3) BOARD CN201
IK
12V
B
G
R
CN705 8P WHT :S-MICRO TO CG BOARD CN734
IK1
IK2
VB
200V
12V
CR
(R OUT)
8-95493.<EA.>-CR.

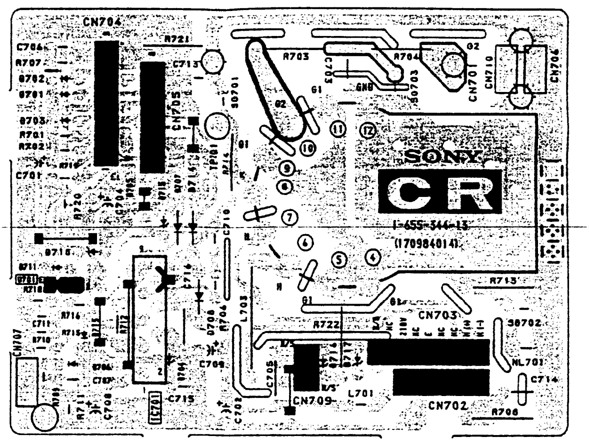

G1 G2 G4
4 5 1.2
H 6
7
K 10
G3 G5
V901
PICTURE TUBE
07MAC4 (R)
HV. BLOCK
CRT BRACKET

• CR BOARD WAVEFORM



CR [R OUT]

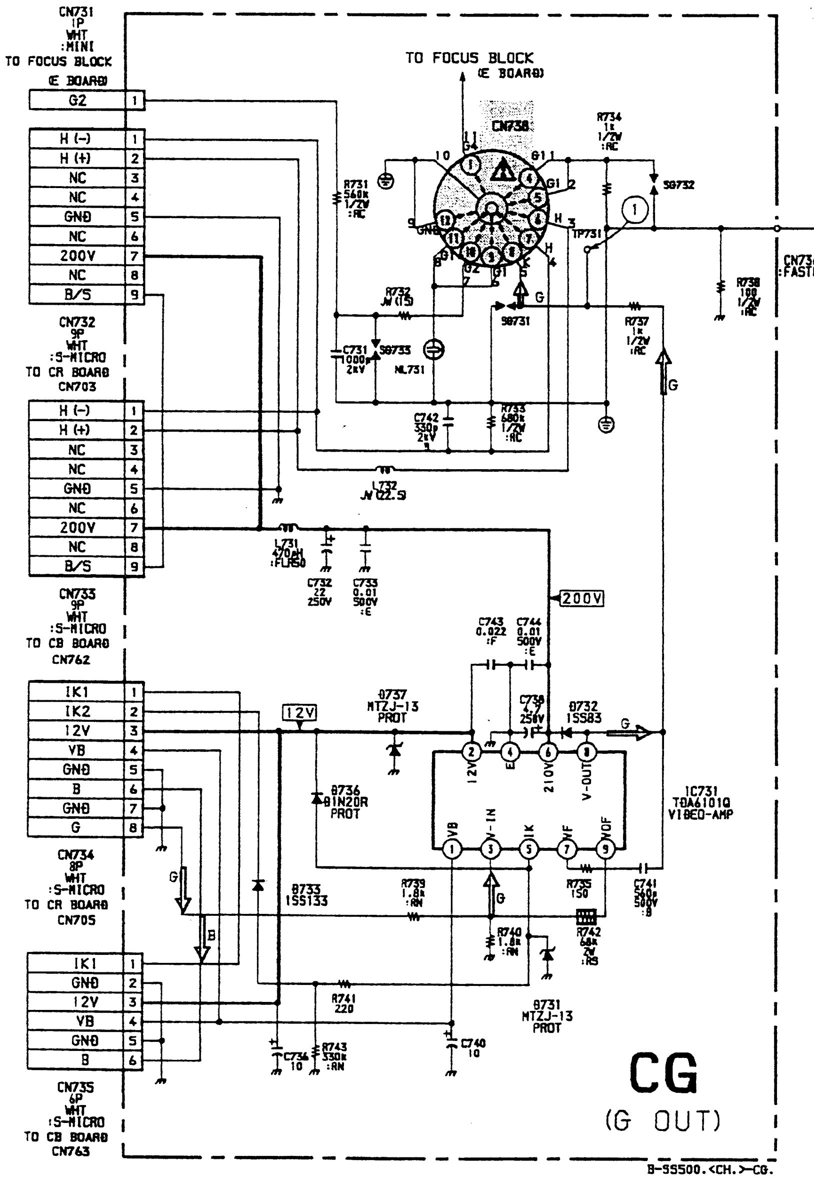
- CR BOARD -

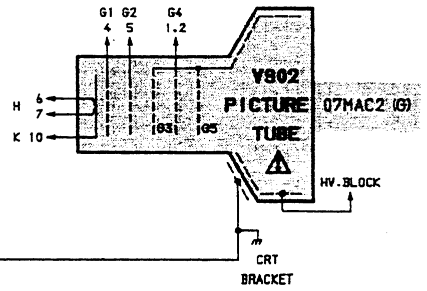

CN704
CN706
CN709
CN703
CN702
SONY
CR
1-655-344-13
IC701

CR BOARD
IC VOLTAGE LIST

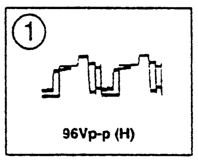
IC701	1	3.3
	2	12.5
	3	3.1
	4	GND
	5	10.0
	6	209.0
	7	169.0
	8	169.0
	9	168.0

All Voltage are in V.


CN731 1P WHT :MINI TO FOCUS BLOCK (E BOARD)
G2
TO FOCUS BLOCK (E BOARD)
CN738
TP731
SG731
SG732
SG733
NL731
CN736 :FASTON
CN732 9P WHT :S-MICRO TO CR BOARD CN703
H (-)
H (+)
NC
GND
200V
B/S
CN733 9P WHT :S-MICRO TO CB BOARD CN762
CN734 8P WHT :S-MICRO TO CR BOARD CN705
IK1
IK2
12V
VB
CN735 6P WHT :S-MICRO TO CB BOARD CN763
L731 470μH
L732
D731 MTZJ-13 PROT
D732 1SS83
D733 1SS133
D736 01N20R PROT
D737 MTZJ-13 PROT
IC731 TDA6101Q VIDEO-AMP
200V
12V
CG
(G OUT)
8-95500.<CH.>-CG.

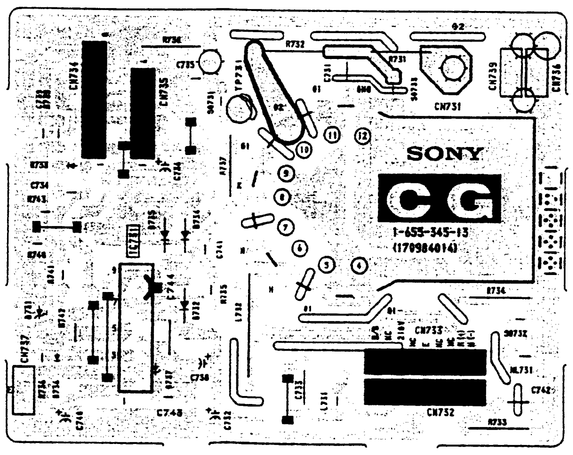

G1 G2 G4
4 5 1.2
H 6
7
K 10
G3 G5
V902
PICTURE TUBE
07MAC2 (G)
HV. BLOCK
CRT BRACKET

• CG BOARD WAVEFORM



CG [G OUT]

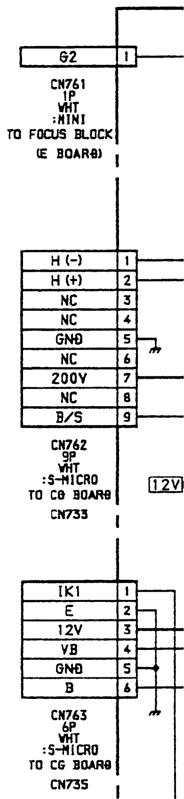
- CG BOARD -


CN731
CN733
CN732
SONY
CG
1-655-345-13
IC731

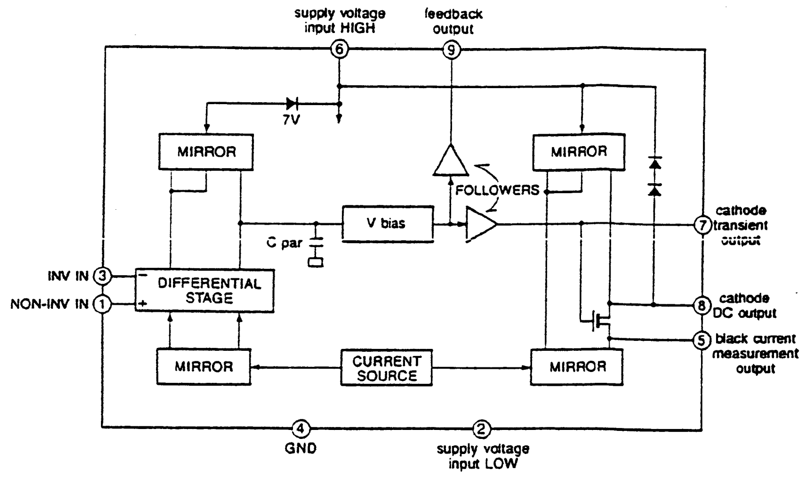
CG BOARD
IC VOLTAGE LIST

IC731	1	3.3
	2	12.5
	3	-3.0
	4	GND
	5	10.0
	6	209.0
	7	162.0
	8	163.0
	9	161.0

All Voltage are in V.


G2
CN761 1P WHT :MINI TO FOCUS BLOCK (E BOARD)
H (-)
H (+)
NC
GND
200V
B/S
CN762 9P WHT :S-MICRO TO CG BOARD CN733
12V
IK1
E
12V
VB
GND
B
CN763 6P WHT :S-MICRO TO CG BOARD CN735

CR BOARD : IC701 TDA6101Q
CG BOARD : IC731 TDA6101Q
CB BOARD : IC761 TDA6101Q

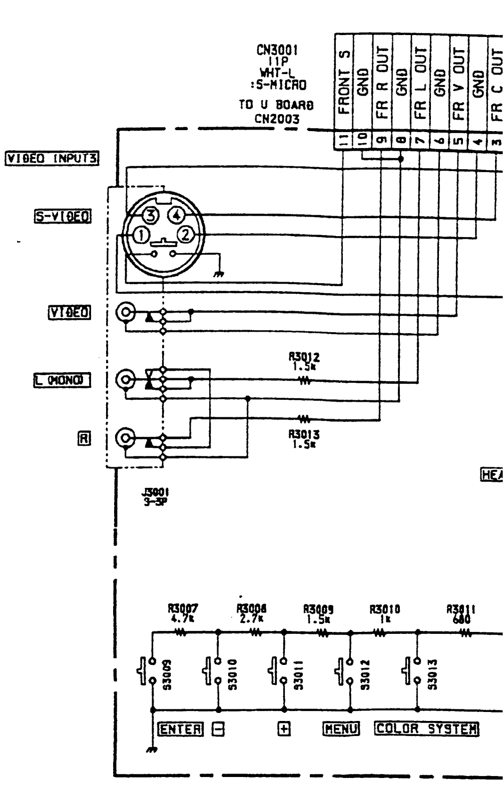


supply voltage input HIGH
feedback output
⑥
⑨
7V
MIRROR
MIRROR
FOLLOWERS
V bias
C par
cathode transient output
⑦
INV IN ③
NON-INV IN ①
DIFFERENTIAL STAGE
cathode DC output
⑧
⑤ black current measurement output
MIRROR
CURRENT SOURCE
MIRROR
④
GND
②
supply voltage input LOW

CR BOARD
IC VOLTAGE LIST

IC701	1	3.3
	2	12.5
	3	3.1
	4	GND
	5	10.0
	6	209.0
	7	169.0
	8	169.0
	9	168.0

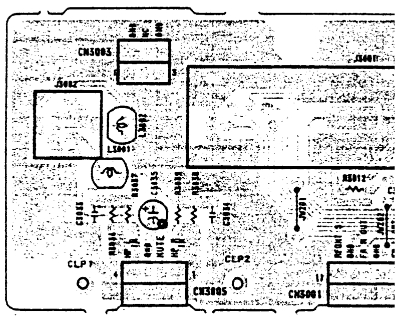
All Voltage are in V.



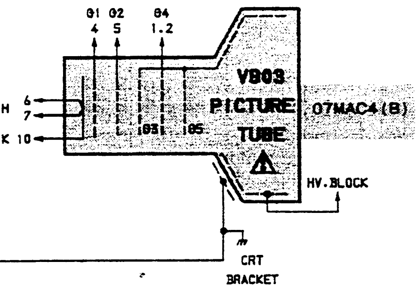
CN3001
11P
WHT-L
:S-MICRO
TO U BOARD
CN2003
FRONT 5
GND
FR R OUT
GND
FR L OUT
GND
FR V OUT
GND
FR C OUT
VIDEO INPUT3
S-VIDEO
VIDEO
L (MONO)
R
R3012 1.5k
R3013 1.5k
J3001
R3007 4.7k
R3008 2.7k
R3009 1.5k
R3010 1k
R3011 680
S3009
S3010
S3011
S3012
S3013
ENTER
MENU
COLOR SYSTEM

HA [VIDEO 3 INPUT, HP OUT, FUNCTION SW]

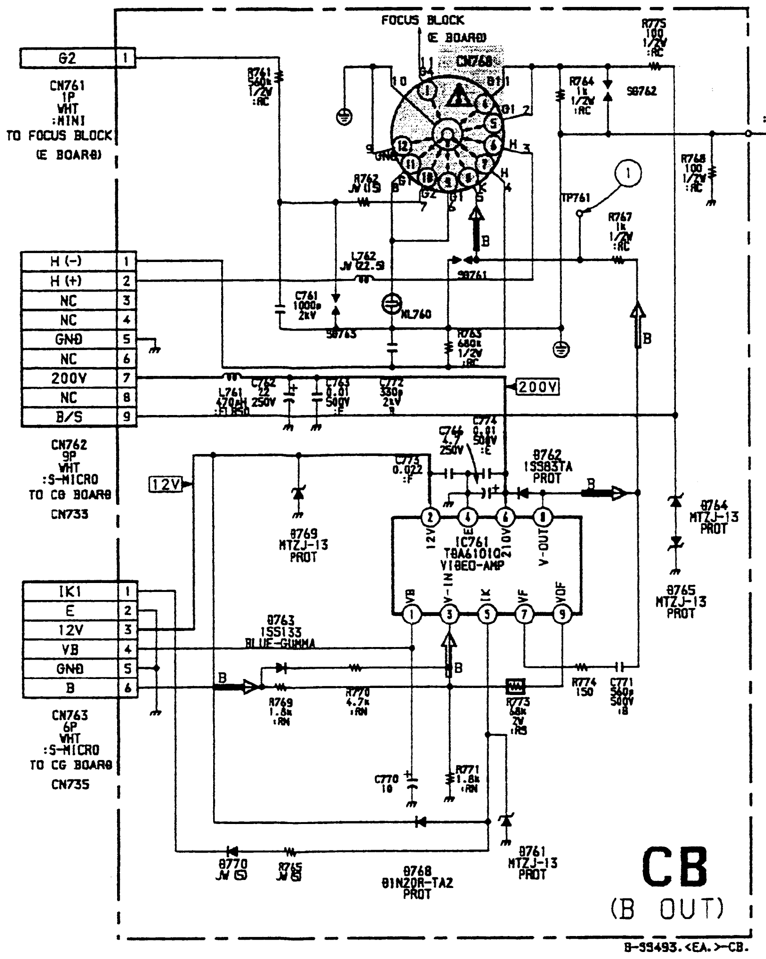
- HA BOARD -



CN3003
CLP1
CLP2
CN3001

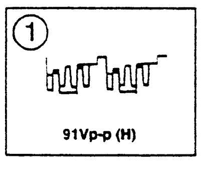


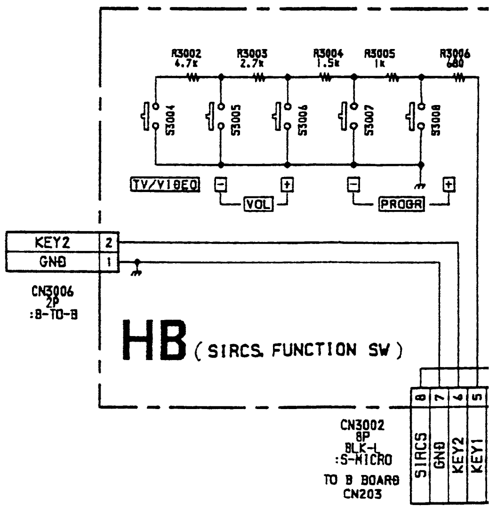
G1 G2 G4
4 5 1.2
H 6
7
K 10
V803
PICTURE
TUBE
07MAC4(B)
HV.BLOCK
CRT
BRACKET



G2
CN761
1P
WHT
:MINI
TO FOCUS BLOCK
(E BOARD)
FOCUS BLOCK
(E BOARD)
CN768
R761
R775 100 1/2W :RC
R764 1k 1/2W :RC
SG762
CN766 :FASTON
R762
TP761
R767 1k 1/2W :RC
R768 100 1/2W :RC
L762
C761 1000p 2kV
SG763
SG761
ML760
R763 680k 1/2W :RC
H (-)
H (+)
NC
NC
GND
NC
200V
NC
B/S
CN762
9P
WHT
:S-MICRO
TO CB BOARD
CN733
L761 470μH
C762 1μ 250V
C763 0.01 500V
C772 330p 2kV
200V
12V
C773 0.022 :F
C766 4.7 250V
C774 0.01 500V
D762 1SS83TA PROT
D769 MTZJ-13 PROT
IC761 TDA6101Q VIDEO-AMP
D764 MTZJ-13 PROT
D765 MTZJ-13 PROT
IK1
E
12V
VB
GND
B
CN763
6P
WHT
:S-MICRO
TO CG BOARD
CN735
D763 1SS133 BLUE-GAMMA
R769 1.8k :RN
R770 4.7k :RN
R773 68k 2W :RS
R774 150
C771 560p 500V :B
C770 10
R771 1.8k :RN
D770
D766
D768 BINZOR-TAZ PROT
D761 MTZJ-13 PROT
CB
(B OUT)
8-55493.<EA.>-CB.

• CB BOARD WAVEFORM

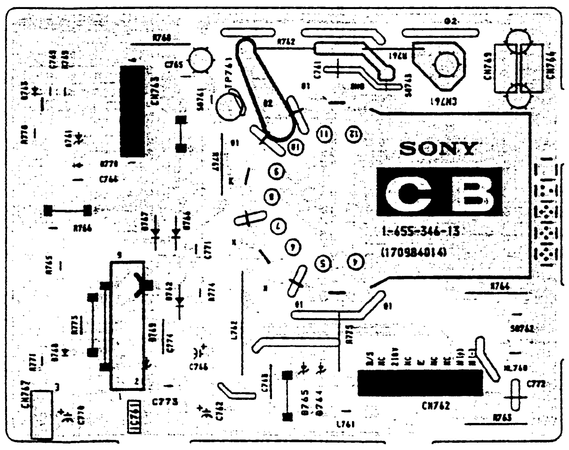




R3002 4.7k
R3003 2.7k
R3004 1.5k
R3005 1k
R3006 680
S3004
S3005
S3006
S3007
S3008
TV/VIDEO
VOL
PROGR
KEY2
GND
CN3006
2P
:8-TO-B
HB (SIRCS FUNCTION SW)
CN3002
8P
BLK-L
:S-MICRO
TO B BOARD
CN203
SIRCS
GND
KEY2
KEY1

CB [B OUT]

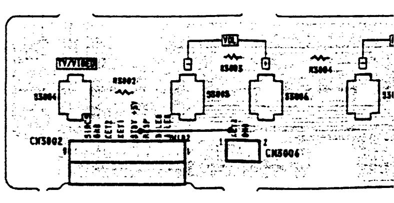
- CB BOARD -



SONY
CB
1-655-346-13
(170584814)
CN762
C773
L761

HB [SIRCS, FUNCTION SW]

- HB BOARD -



TV/VIDEO
CN3002
CN3006

CB BOARD
IC VOLTAGE LIST

IC761	1	3.3
	2	12.5
	3	3.1
	4	GND
	5	10.0
	6	209.0
	7	166.0
	8	167.0
	9	164.0

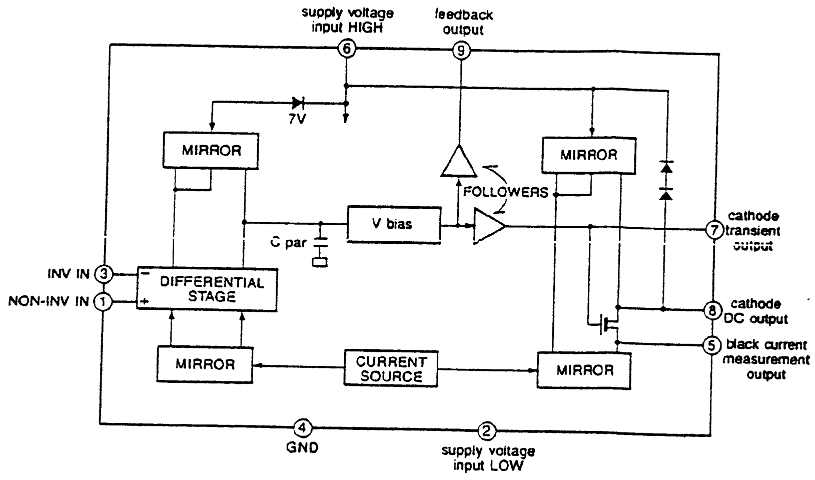
All Voltage are in V.

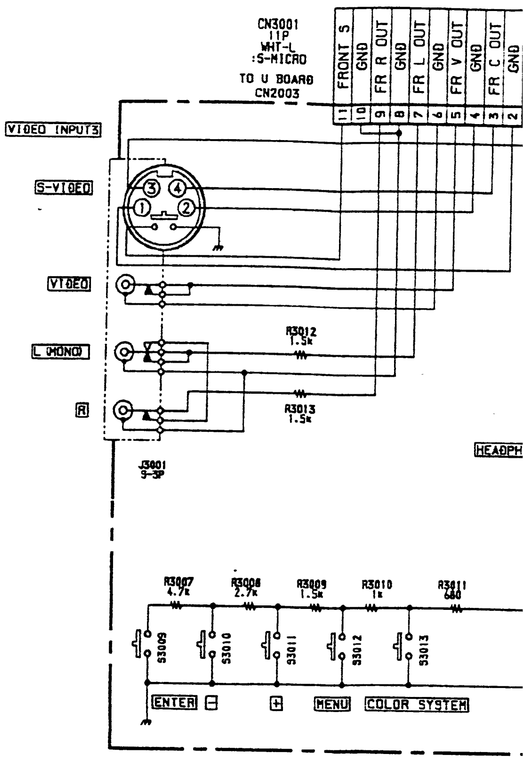
ARD
TAGE LIST

	3.3
	12.5
	3.1
	GND
	10.0
	209.0
	169.0
	169.0
	168.0

age are in V.

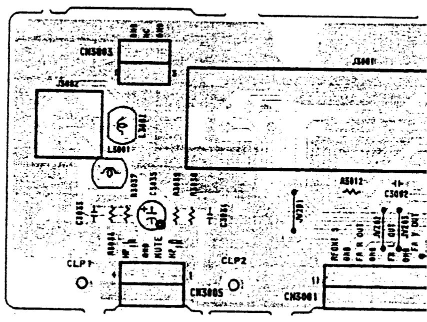
CR BOARD : IC701 TDA6101Q
CG BOARD : IC731 TDA6101Q
CB BOARD : IC761 TDA6101Q

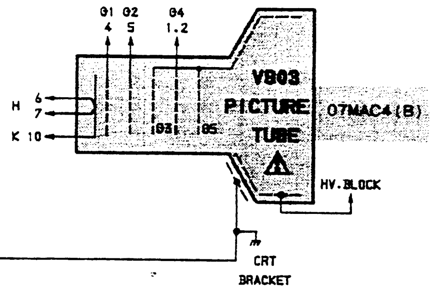

supply voltage input HIGH
feedback output
6
9
7V
MIRROR
MIRROR
FOLLOWERS
V bias
C par
cathode transient output
7
INV IN 3
NON-INV IN 1
DIFFERENTIAL STAGE
cathode DC output
8
5
black current measurement output
MIRROR
CURRENT SOURCE
MIRROR
4
GND
2
supply voltage input LOW

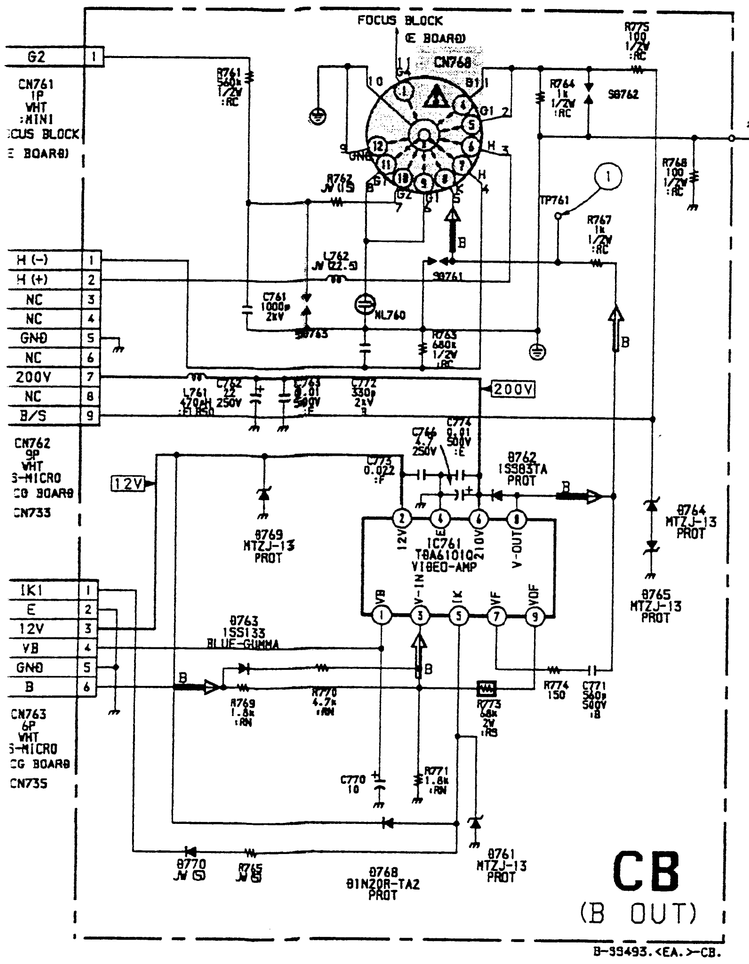

CN3001 11P WHT-L :S-MICRO
TO U BOARD CN2003
FRONT 5
GND
FR R OUT
GND
FR L OUT
GND
FR V OUT
GND
FR C OUT
GND
VIDEO INPUT3
S-VIDEO
VIDEO
L (MONO)
R
R3012 1.5k
R3013 1.5k
J3001 S-3P
HEADPH
R3007 4.7k
R3008 2.7k
R3009 1.5k
R3010 1k
R3011 680
S3009
S3010
S3011
S3012
S3013
ENTER
MENU
COLOR SYSTEM

HA [VIDEO 3 INPUT, HP OUT, FUNCTION SW]

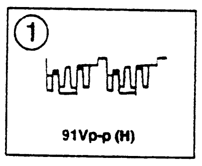
- HA BOARD -


CN3003
CLP1
CLP2
CN3005
CN3001


G1 G2 G4
4 5 1.2
H 6
7
K 10
V903
PICTURE TUBE
07MAC4(B)
G3
G5
HV. BLOCK
CRT BRACKET

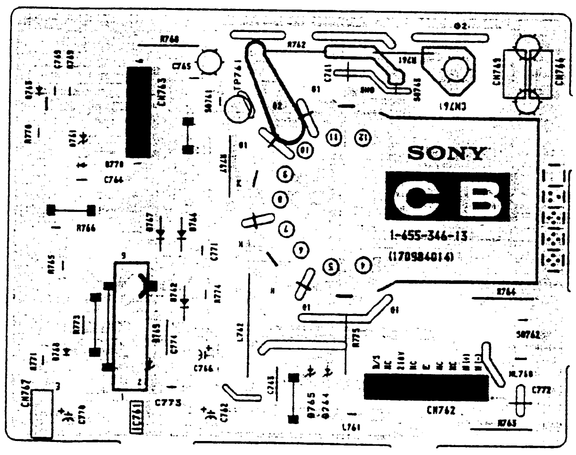

FOCUS BLOCK (E BOARD)
CN768
G2
CN761 1P WHT :MINI
FOCUS BLOCK (E BOARD)
R761 560k 1/2W :RC
R775 100 1/2W :RC
R764 1k 1/2W :RC
SG762
CN766 :FASTON
R762 JW(10)
TP761
R768 100 1/2W :RC
R767 1k 1/2W :RC
L762 JW(12.5)
SG761
C761 1000p 2kV
SG763
NL760
R763 680k 1/2W :RC
H (-)
H (+)
NC
NC
GND
NC
200V
NC
B/S
CN762 9P WHT S-MICRO TO CG BOARD CN733
L761 470μH
C762 22 250V
C763 0.01 500V
C772 330p 2kV
200V
12V
C775 0.022
C764 22 250V
C774 0.01 500V
D762 1SS83TA PROT
D769 MTZJ-13 PROT
IC761 TDA6101Q VIDEO-AMP
D764 MTZJ-13 PROT
D765 MTZJ-13 PROT
IK1
E
12V
VB
GND
B
CN763 6P WHT S-MICRO TO CG BOARD CN735
D763 1SS133 BLUE-GAMMA
R769 1.8k
R770 4.7k
R774 150
C771 560p 500V
R773 68k
C770 10
R771 1.8k
D770 JW(5)
R765 JW(5)
D768 BINZOR-TA2 PROT
D761 MTZJ-13 PROT
CB (B OUT)
B-35493.<EA.>-CB.

• CB BOARD WAVEFORM



CB [B OUT]

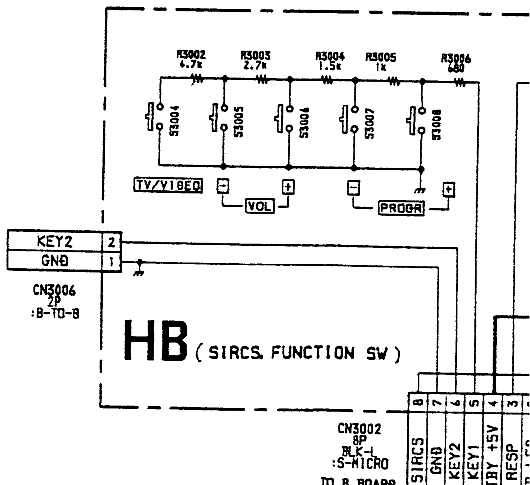
- CB BOARD -


SONY
CB
1-455-344-13
(172584014)
CN762
CN763
CN764

CB BOARD IC VOLTAGE LIST

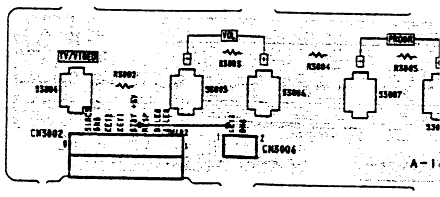
IC761	1	3.3
	2	12.5
	3	3.1
	4	GND
	5	10.0
	6	209.0
	7	166.0
	8	167.0
	9	164.0

All Voltage are in V.

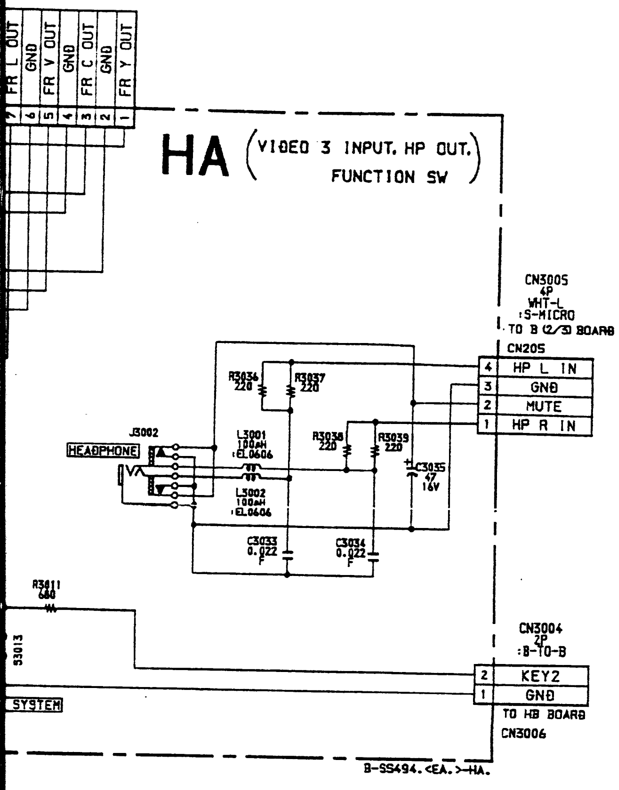

R3002 4.7k
R3003 2.7k
R3004 1.5k
R3005 1k
R3006 680
S3004
S3005
S3006
S3007
S3008
TV/VIDEO
VOL
PROGR
KEY2
GND
CN3006 2P :B-TO-B
HB (SIRCS FUNCTION SW)
CN3002 8P BLK-L :S-MICRO
TO B BOARD CN203
SIRCS
GND
KEY2
KEY1
STBY +5V
RESP

HB [SIRCS, FUNCTION SW]

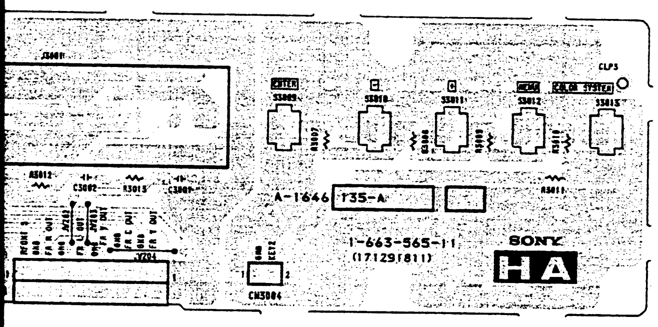
- HB BOARD -

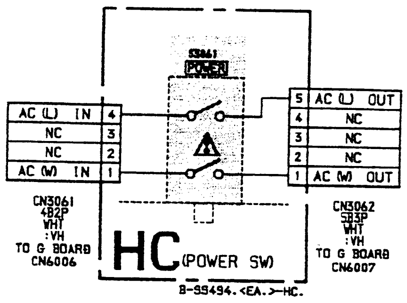

TV/VIDEO
CN3002
CN3006
A-1

23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35


FR L OUT
GND
FR V OUT
GND
FR C OUT
GND
FR Y OUT
HA (VIDEO 3 INPUT, HP OUT, FUNCTION SW)
CN3005 4P WHT-L :S-MICRO TO B (2/3) BOARD
CN205
4 HP L IN
3 GND
2 MUTE
1 HP R IN
R3036 220
R3037 220
R3038 220
R3039 220
J3002
HEADPHONE
L3001 100µH :EL0606
L3002 100µH :EL0606
C3035 47 16V
C3033 0.022 F
C3034 0.022 F
R3011 680
S3013
SYSTEM
CN3004 2P :B-TO-B
2 KEY2
1 GND
TO HB BOARD CN3006
B-SS494.<EA.>-HA.

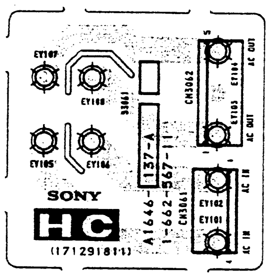
UT,]


A-1646 135-A
1-663-565-11
(171291811)
SONY
HA
CN3004
SYSTEM
COLOR SYSTEM


S3061
POWER
AC (L) IN 4
NC 3
NC 2
AC (W) IN 1
5 AC (L) OUT
4 NC
3 NC
2 NC
1 AC (W) OUT
CN3061 4B2P WHT :VH TO G BOARD CN6006
CN3062 5B3P WHT :VH TO G BOARD CN6007
HC (POWER SW)
B-SS494.<EA.>-HC.

HC [POWER SW]

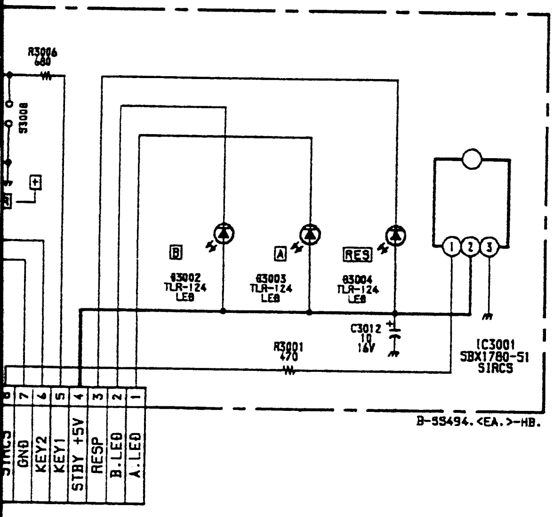
- HC BOARD -

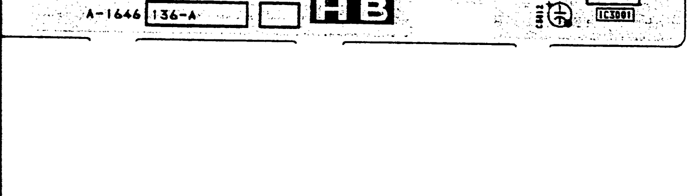

SONY
HC
A1646-137-A
1-662-567-11
(171291811)
CN3061
CN3062
AC OUT
AC IN

HB BOARD
IC VOLTAGE LIST

IC3001		
	1	5.2
	2	5.3
	3	GND

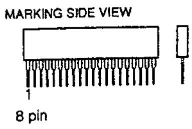
All Voltage are in V.


R3006 680
S3008
B
A
RES
D3002 TLR-124 LED
D3003 TLR-124 LED
D3004 TLR-124 LED
C3012 10 16V
R3001 470
IC3001 SBX1780-51 SIRCS
8 7 6 5 4 3 2 1
SIRCS
GND
KEY2
KEY1
STBY +5V
RESP
B.LED
A.LED
B-SS494.<EA.>-HB.

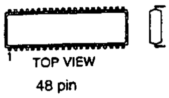

1-663-566-11
(171291811)
SONY
HB
A-1646 136-A
IC3001

6-5. SEMICONDUCTORS

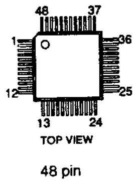
CX20125


MARKING SIDE VIEW
1
8 pin

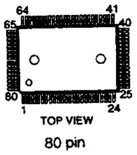
CXA1855S


1
TOP VIEW
48 pin

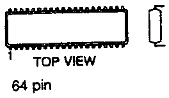
CXD2018Q


48
37
1
36
12
25
13
24
TOP VIEW
48 pin

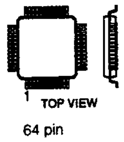
CXD2024AQ


64
41
65
40
80
25
1
24
TOP VIEW
80 pin

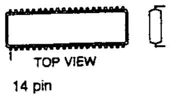
CXP85112B-613S


1
TOP VIEW
64 pin

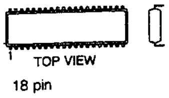
CXP85460-033Q


1
TOP VIEW
64 pin

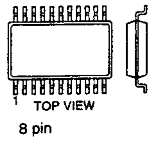
IR2112


1
TOP VIEW
14 pin

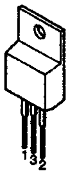
LA7856A
PA0053B


1
TOP VIEW
18 pin

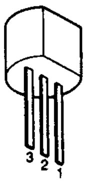
LM358D
NJM2234M
NJM2235M
NJM2240M
TDA2822D


1
TOP VIEW
8 pin

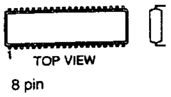
LM7912CT
MC7905CT
NJM7912FA



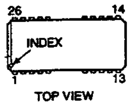
L78L05ACZ-AP



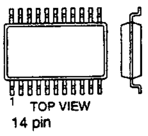
M5218AP
NJM4558D
ST24016CM1-TR/A
µPC393C


1
TOP VIEW
8 pin

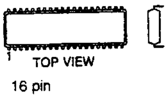
MB814100A-70PJ-T6
MB814100C-70PJN-T6


26
14
INDEX
1
13
TOP VIEW

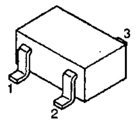
MC14066BF


1
TOP VIEW
14 pin

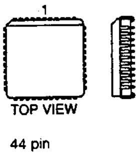
MC74HC163AF
MC74HC4053F
IR3M02A
TDA4665T-T


1
TOP VIEW
16 pin

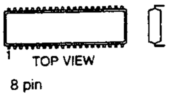
MN1382S



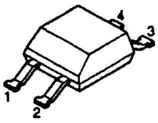
MSP3410B-PS-F7-T
TPU3040-TC20


1
TOP VIEW
44 pin

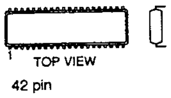
NJM2058D


1
TOP VIEW
8 pin

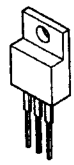
PC123F2



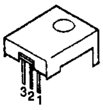
PM0002B


1
TOP VIEW
42 pin

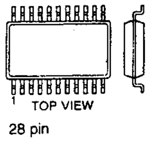
PQ09RF2
MC7805CT
MC7812CT
TA7805S
TA7812S



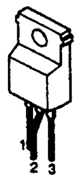
SBX1780-51



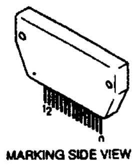
SDA9187-2XGEG
SDA9188-3XGEG


1
TOP VIEW
28 pin

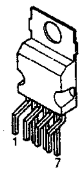
SE-135N



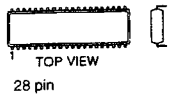
STK392-010


1
n
MARKING SIDE VIEW

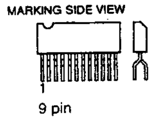
STV9379



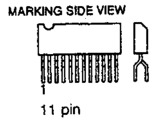
TDA4780/V3


1
TOP VIEW
28 pin

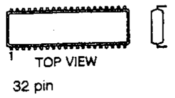
TDA6101Q/N3


MARKING SIDE VIEW
1
9 pin

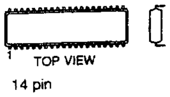
TDA7265


MARKING SIDE VIEW
1
11 pin

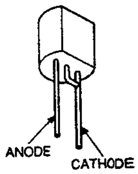
TDA9143/N2
TDA9160A


1
TOP VIEW
32 pin

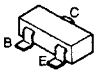
µPC339C


1
TOP VIEW
14 pin

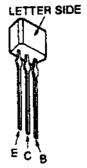
µPC574J


ANODE
CATHODE

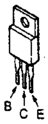
DTA114EKA-T146
DTA144EKA-T146
DTC144EKA-T146
2SA1037K-T-146-QR
2SA1162G
2SB709A-QRS-TX
2SC1623-L5L6
2SC2412K-T-146-QR
2SC2712-YG
2SD601A-Q



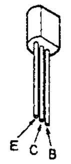
DTA144ESA


LETTER SIDE
E
C
B

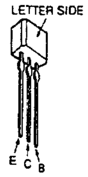
IRFI640LF
IRFI744G-LF
2SA1837
2SC4793



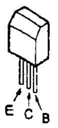
2SA1013-O
2SA1208



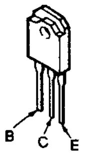
2SA1175-HFE
2SA1039A-QRSTA
2SC2785-HFE
2SC3311A-QRSTA


LETTER SIDE
E
C
B

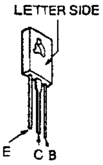
2SA1221-L
2SB733-34
2SB734-B4
2SD774-34



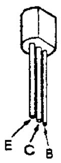
2SA1492M-OPY



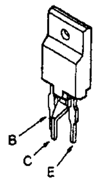
2SB649A
2SC2668-LK


LETTER SIDE
E
C
B

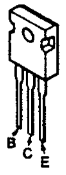
2SC2878-AB



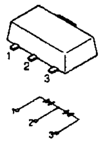
2SC4632LS-CB7
2SD1887-CA



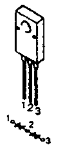
2SD2348LBSONY



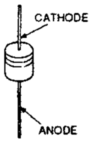
BAS16



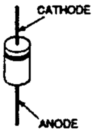
D10SC4M



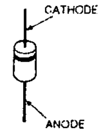
D1N20R
ERA82-004TPS
MTZJ-13
MTZJ-3.6A
MTZJ-T-77-24
RD13ES-B2
RD20ES-B1
RD3.9ES-B1
RD33ES-B2
RD39ES-B2
RD5.1ES-B2
RD5.6ES-B2
RD9.1ES-B1
1SS119-25
1SS133T-72
11EQS04


CATHODE
ANODE

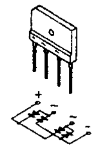
D2S4M


CATHODE
ANODE

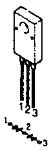
D3S4M-F
EGP10D
ERC04-06S
ERC06-15S
ERC91-02
RU-IC
S2LA20F


CATHODE
ANODE

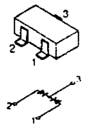
D6SB60L
RBA-4068



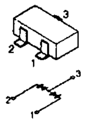
D8LC40



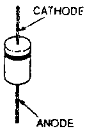
DAN202K



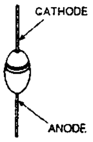
DAP202K



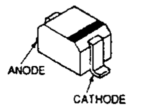
D1NL20-TR
EL1Z
GP08D(GP08DPKG23)
RGP10GPKG23
RGP02-17EL-6433
RGP02-20EL-6394
S2L40F
UF4005PKG23
1SS83


CATHODE
ANODE

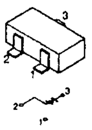
ERC38-06
U05G
V19E-T52


CATHODE
ANODE

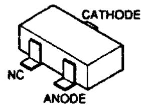
MA111


ANODE
CATHODE

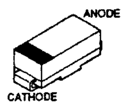
MA3039-L-(TX)
MA3043-M-TX
MA3051M-TX
MA3075-TX
MA3100H-TX
MA3130H-TX
RD13M-B3
RD3.9M-B1
RD5.1M-B2
RD7.5M-B2



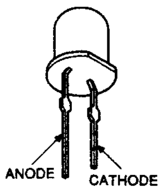
MA3240-TX


CATHODE
NC
ANODE

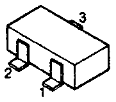
SC802-06


ANODE
CATHODE

TLR124


ANODE
CATHODE

DA204K-T-147
1SS226



SECTION 7
EXPLODED VIEWS

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

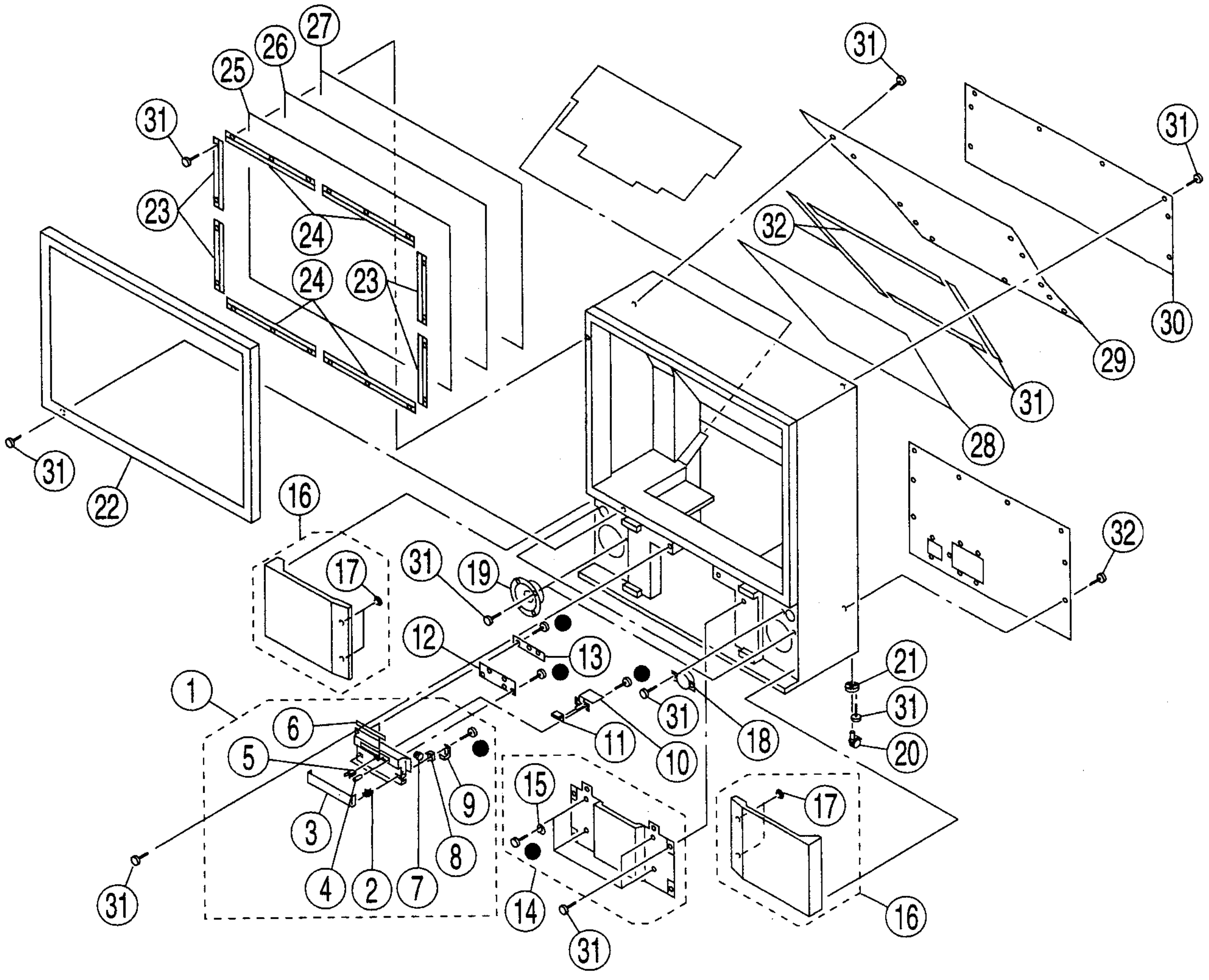
Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

7-1. COVER

● : 7-685-648-79 +BVTP 3X12



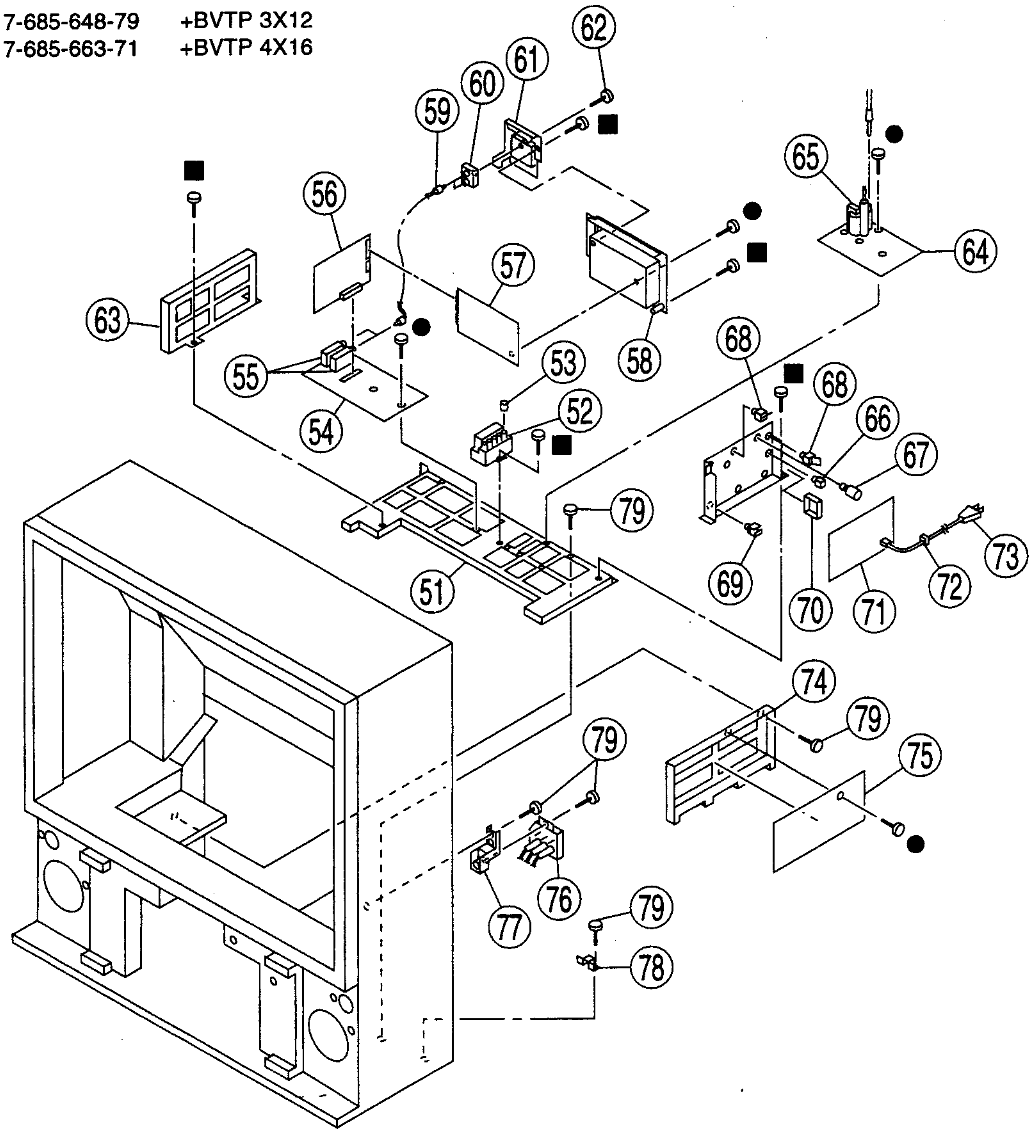
REF. NO.	PART NO.	DESCRIPTION	REMARK
1	X-4033-941-1	PANEL (53) ASSY, CONTROL	2-9
2	3-703-035-11	SHAFT, LID	
3	4-052-685-21	LID, FINAL CONTROL	
4	4-057-227-01	GUIDE (L), LIGHT	
5	4-047-464-01	CATCHER, PUSH	
6	4-055-637-01	PANEL, INDICATOR	
7	3-720-417-01	DAMPER, OIL	
8	4-397-047-01	HOLDER, DAMPER	
9	4-036-513-01	SPRING, LID	
10	* A-1646-137-A	HC BOARD, COMPLETE	
11	4-051-888-01	POWER BUTTON	
12	* A-1646-135-A	HA BOARD, COMPLETE	
13	* A-1646-136-A	HB BOARD, COMPLETE	
14	X-4034-429-1	COVER (61) ASSY, FRONT	15
15	4-843-806-00	STRIKE	
16	X-4034-428-1	GRILLE (61) ASSY, SPEAKER	17
17	4-838-438-00	LATCH	
18	1-505-703-11	SPEAKER (5CM)	
19	1-505-704-11	SPEAKER (16CM)	
20	4-040-508-01	CASTER	
21	4-030-850-01	SOCKET, CASTER	
22	X-4034-426-1	FRAME (61) ASSY, SCREEN	
23	4-044-727-01	HOLDER (S), SCREEN	
24	4-044-726-01	HOLDER (L), SCREEN	
25	4-058-538-01	SCREEN (61), CONTRAST	
26	4-040-124-11	PLATE (L), DIFFUSION	
27	4-040-123-11	PLATE (F), DIFFUSION	
28	4-058-871-01	MIRROR (61), REFLECTION	
29	4-058-535-01	COVER (61), MIRROR	
30	* 4-058-533-01	PLATE (61), TOP	
31	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
32	* 4-058-527-01	HOLDER, MIRROR	

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

7-2. CHASSIS

● : 7-685-648-79 +BVTP 3X12
■ : 7-685-663-71 +BVTP 4X16



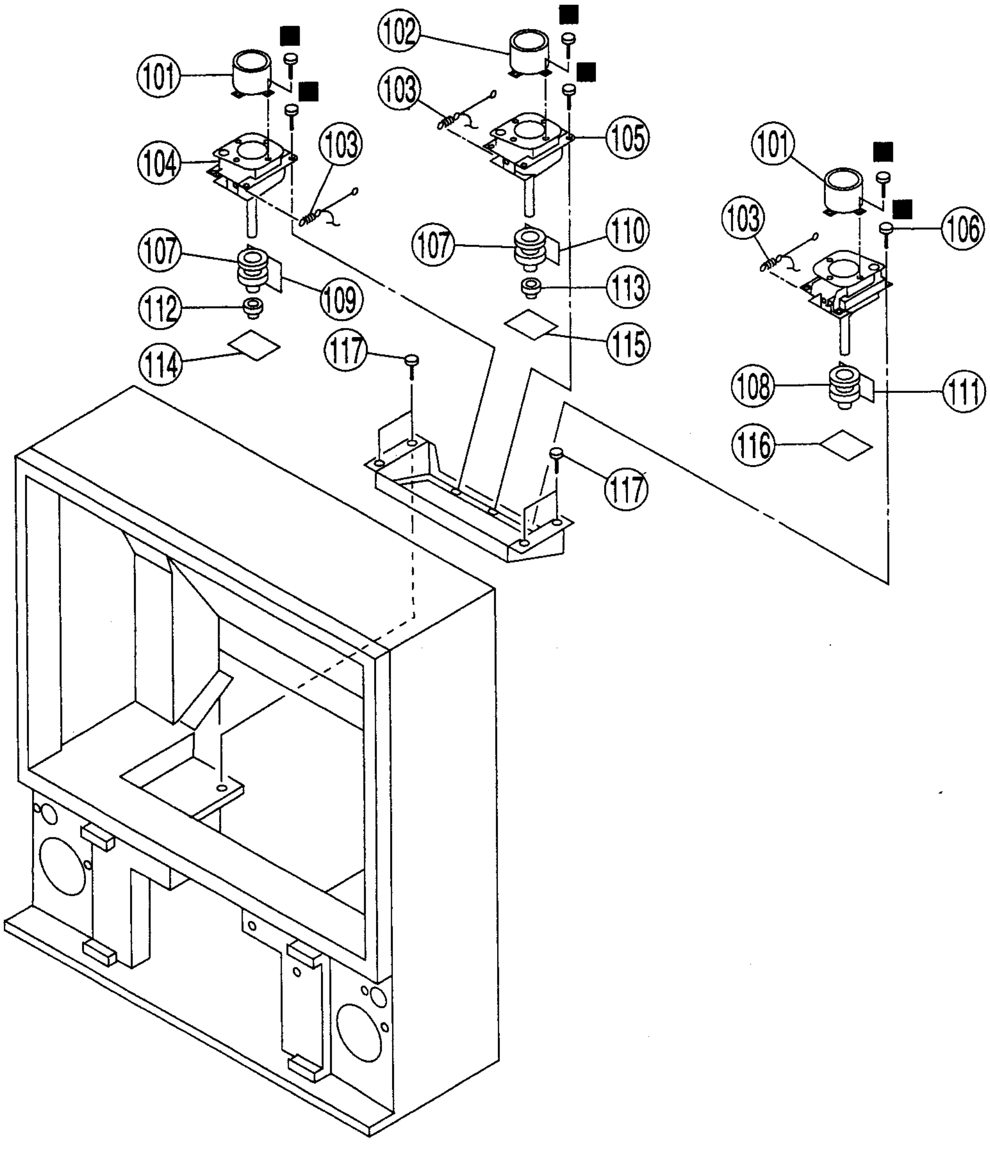
REF. NO.	PART NO.	DESCRIPTION	REMARK
51	* 4-047-949-12	BRACKET, MAIN PC BOARD	
52	⚠ 8-598-955-11	BLOCK ASSY, HIGH-VOLTAGE	
53	4-373-137-01	CAP (Z), RUBBER	
54	* A-1632-585-A	A BOARD, COMPLETE	
55	8-598-270-00	TUNER, ET BTP-RG421	
56	* A-1621-061-A	B BOARD, COMPLETE	
57	* A-1647-004-A	U BOARD, COMPLETE	
58	4-055-642-01	TERMINAL BOARD (A) (53)	
59	* 1-555-400-00	CABLE, PIN	
60	1-251-249-11	DISTRIBUTOR, RF	
61	4-055-643-01	TERMINAL BOARD (B) (53)	
62	4-382-854-11	SCREW (M3X10), P, SW (+)	
63	* 4-054-833-01	BRACKET (B)	
64	* A-1642-192-A	E BOARD, COMPLETE	
65	⚠ 1-453-189-11	TRANSFORMER ASSY, FLYBACK	(NX-2631//A4S)
66	* 4-382-848-01	HOLDER, PCB	
67	* 3-687-542-41	SPACER, PC BOARD SPACE	
68	* 3-703-141-00	HOLDER, PCB	
69	* 3-659-682-11	HOLDER, PC BOARD	
70	* 4-316-015-00	HOLDER, WIRE	
71	* A-1637-007-A	G BOARD, COMPLETE	
72	4-389-201-11	HOLDER, AC CORD	
73	⚠ 1-574-358-12	CORD, POWER (WITH CONNECTOR)	7.5A/250V (KP-E61SN11)
	⚠ 1-690-270-21	CORD, POWER (WITH CONNECTOR)	2.5A/250V (KP-E61MH11(ME)/KP-E61MN11)
	⚠ 1-769-609-21	CORD, POWER (WITH CONNECTOR)	(KP-E61MH11(HK))
74	* 4-054-834-01	BRACKET (D)	
75	* A-1642-215-A	D BOARD, COMPLETE	
76	⚠ 1-223-925-12	RESISTOR ASSY (HIGH-VOLTAGE)	
77	* 4-054-825-01	BRACKET, FOCUS PACK	
78	4-051-889-01	HOLDER, AC	
79	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

7-3. PICTURE TUBE

■ : 7-685-663-71 +BVTP 4X16



REF. NO.	PART NO.	DESCRIPTION	REMARK
101	4-040-131-01	LENS (LINNIT POINT 6)	
102	4-040-131-21	LENS (LINNIT POINT 6)	
103	4-048-142-11	SPRING, EXTENSION	
104	⚠ 8-733-508-05	PICTURE TUBE 07MAC4(R)	
105	⚠ 8-733-509-05	PICTURE TUBE 07MAC2(G)	
106	⚠ 8-733-507-05	PICTURE TUBE 07MAC4(B)	
107	⚠ 8-451-463-12	DEFLECTION YOKE Y829PA2N (R) (G)	
108	⚠ 8-451-463-22	DEFLECTION YOKE Y829PA2N2 (B)	
109	* A-1390-594-A	ZR BOARD, COMPLETE	
110	* A-1390-595-A	ZG BOARD, COMPLETE	
111	* A-1390-596-A	ZB BOARD, COMPLETE	
112	⚠ 1-452-790-21	NECK ASSY	
113	⚠ 1-452-790-11	NECK ASSY	
114	* A-1331-532-A	CR BOARD, COMPLETE	
115	* A-1331-533-A	CG BOARD, COMPLETE	
116	* A-1331-534-A	CB BOARD, COMPLETE	
117	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	

CR **CG**

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The componants identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

RESISTORS
- All resistors are in ohms
- F : nonflammable
- CAPACITORS
  PF : μμ F
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

* A-1331-532-A CR BOARD, COMPLETE
****

REF. NO.	PART NO.	DESCRIPTION			REMARK	
		<CAPACITOR>				
C701	1-104-664-11	ELECT	47MF	20%	25V	
C702	1-107-662-11	ELECT	22MF	20%	250V	
C703	1-161-754-00	CERAMIC	0.001MF	10%	2KV	
C704	1-126-768-11	ELECT	2200MF	20%	16V	
C705	1-102-050-00	CERAMIC	0.01MF		500V	
C707	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C708	1-104-664-11	ELECT	47MF	20%	25V	
C709	1-107-651-11	ELECT	4.7MF	20%	250V	
C710	1-102-157-00	CERAMIC	560PF	10%	500V	
C714	1-162-115-00	CERAMIC	330PF	10%	2KV	
C715	1-101-005-00	CERAMIC	0.022MF		50V	
C716	1-102-050-00	CERAMIC	0.01MF		500V	
		<CONNECTOR>				
CN701	* 1-508-784-21	PIN, CONNECTOR (5mm PITCH) 1P				
CN702	* 1-564-510-11	PLUG, CONNECTOR 7P				
CN703	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN704	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN705	* 1-564-511-11	PLUG, CONNECTOR 8P				
CN706	1-695-915-11	TAB (CONTACT)				
CN708	⚠ 1-251-179-11	SOCKET, PICTURE TUBE				
CN709	* 1-564-506-11	PLUG, CONNECTOR 3P				
		<DIODE>				
D701	8-719-991-33	DIODE 1SS133T-77				
D702	8-719-991-33	DIODE 1SS133T-77				
D703	8-719-991-33	DIODE 1SS133T-77				
D704	8-719-921-86	DIODE MTZJ-13				
D705	8-719-210-21	DIODE 11EQS04				
D706	8-719-991-33	DIODE 1SS133T-77				
D707	8-719-921-86	DIODE MTZJ-13				
D708	8-719-901-83	DIODE 1SS83				
D713	8-719-510-48	DIODE D1N20R				
D716	8-719-921-86	DIODE MTZJ-13				
D717	8-719-921-86	DIODE MTZJ-13				
		<IC>				
IC701	8-759-346-42	IC TDA6101Q/N3				
		<COIL>				
L701	1-408-429-00	INDUCTOR 470UH				
		<NEON LAMP>				
NL701	1-519-108-99	LAMP, NEON				
		<RESISTOR>				
R701	1-215-411-00	METAL	390	1%	1/4W	
R702	1-215-414-00	METAL	510	1%	1/4W	
R704	1-202-847-00	SOLID	560K	20%	1/2W	
R706	1-249-407-11	CARBON	150	5%	1/4W	
R707	1-215-429-00	METAL	2.2K	1%	1/4W	
R708	1-202-883-11	SOLID	680K	20%	1/2W	
R709	1-215-436-00	METAL	4.3K	1%	1/4W	
R710	1-215-427-00	METAL	1.8K	1%	1/4W	
R711	1-215-427-00	METAL	1.8K	1%	1/4W	
R712	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R713	1-202-818-00	SOLID	1K	20%	1/2W	
R714	1-202-818-00	SOLID	1K	20%	1/2W	
R719	1-247-807-31	CARBON	100	5%	1/4W	
R721	1-202-549-00	SOLID	100	20%	1/2W	
R722	1-202-549-00	SOLID	100	20%	1/2W	
		<SPARK GAP>				
SG701	1-519-422-11	GAP, SPARK				
SG702	1-519-422-11	GAP, SPARK				
SG703	1-519-422-11	GAP, SPARK				

****

* A-1331-533-A CG BOARD, COMPLETE
****

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C731	1-161-754-00	CERAMIC	0.001MF	10%	2KV
C732	1-107-662-11	ELECT	22MF	20%	250V
C733	1-102-050-00	CERAMIC	0.01MF		500V
C736	1-126-964-11	ELECT	10MF	20%	50V
C738	1-107-651-11	ELECT	4.7MF	20%	250V
C740	1-126-964-11	ELECT	10MF	20%	50V
C741	1-102-157-00	CERAMIC	560PF	10%	500V
C742	1-162-115-00	CERAMIC	330PF	10%	2KV
C743	1-101-005-00	CERAMIC	0.022MF		50V
C744	1-102-050-00	CERAMIC	0.01MF		500V
		<CONNECTOR>			
CN731	* 1-508-784-21	PIN, CONNECTOR (5mm PITCH) 1P			
CN732	* 1-564-512-11	PLUG, CONNECTOR 9P			
CN733	* 1-564-512-11	PLUG, CONNECTOR 9P			
CN734	1-564-511-11	PLUG, CONNECTOR 8P			
CN735	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN736	1-695-915-11	TAB (CONTACT)			
CN738	⚠ 1-251-179-11	SOCKET, PICTURE TUBE			

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

<DIODE>

REF. NO.	PART NO.	DESCRIPTION	REMARK
D731	8-719-921-86	DIODE MTZJ-13	
D732	8-719-901-83	DIODE 1SS83	
D733	8-719-991-33	DIODE 1SS133T-77	
D736	8-719-510-48	DIODE D1N20R	
D737	8-719-921-86	DIODE MTZJ-13	

<IC>

REF. NO.	PART NO.	DESCRIPTION	REMARK
IC731	8-759-346-42	IC TDA6101Q/N3	

<COIL>

REF. NO.	PART NO.	DESCRIPTION	REMARK
L731	1-408-429-00	INDUCTOR 470UH	

<NEON LAMP>

REF. NO.	PART NO.	DESCRIPTION	REMARK
NL731	1-519-108-99	LAMP, NEON	

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
R731	1-202-847-00	SOLID	560K	20%	1/2W	
R733	1-202-883-11	SOLID	680K	20%	1/2W	
R734	1-202-818-00	SOLID	1K	20%	1/2W	
R735	1-249-407-11	CARBON	150	5%	1/4W	
R737	1-202-818-00	SOLID	1K	20%	1/2W	
R738	1-202-549-00	SOLID	100	20%	1/2W	
R739	1-215-427-00	METAL	1.8K	1%	1/4W	
R740	1-215-427-00	METAL	1.8K	1%	1/4W	
R741	1-247-815-91	CARBON	220	5%	1/4W	
R742	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R743	1-215-481-00	METAL	330K	1%	1/4W	

<SPARK GAP>

REF. NO.	PART NO.	DESCRIPTION	REMARK
SG731	1-519-422-11	GAP, SPARK	
SG732	1-519-422-11	GAP, SPARK	
SG733	1-519-422-11	GAP, SPARK	

* * *

*A-1331-534-A CB BOARD, COMPLETE

<CAPACITOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
C761	1-161-754-00	CERAMIC	0.001MF	10%	2KV	
C762	1-107-662-11	ELECT	22MF	20%	250V	
C763	1-102-050-00	CERAMIC	0.01MF		500V	
C766	1-107-651-11	ELECT	4.7MF	20%	250V	
C770	1-126-964-11	ELECT	10MF	20%	50V	
C771	1-102-157-00	CERAMIC	560PF	10%	500V	
C772	1-162-115-00	CERAMIC	330PF	10%	2KV	
C773	1-101-005-00	CERAMIC	0.022MF		50V	
C774	1-102-050-00	CERAMIC	0.01MF		500V	

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN761	* 1-508-784-21	PIN, CONNECTOR (5mm PITCH) 1P	
CN762	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN763	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN766	1-695-915-11	TAB (CONTACT)	
CN768	⚠ 1-251-179-11	SOCKET, PICTURE TUBE	

<DIODE>

REF. NO.	PART NO.	DESCRIPTION	REMARK
D761	8-719-921-86	DIODE MTZJ-13	
D762	8-719-901-83	DIODE 1SS83	
D763	8-719-991-33	DIODE 1SS133T-77	
D764	8-719-921-86	DIODE MTZJ-13	
D765	8-719-921-86	DIODE MTZJ-13	
D768	8-719-510-48	DIODE D1N20R	
D769	8-719-921-86	DIODE MTZJ-13	

<IC>

REF. NO.	PART NO.	DESCRIPTION	REMARK
IC761	8-759-346-42	IC TDA6101Q/N3	

<COIL>

REF. NO.	PART NO.	DESCRIPTION	REMARK
L761	1-408-429-00	INDUCTOR 470UH	

<NEON LAMP>

REF. NO.	PART NO.	DESCRIPTION	REMARK
NL760	1-519-108-99	LAMP, NEON	

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
R761	1-202-847-00	SOLID	560K	20%	1/2W	
R763	1-202-883-11	SOLID	680K	20%	1/2W	
R764	1-202-818-00	SOLID	1K	20%	1/2W	
R767	1-202-818-00	SOLID	1K	20%	1/2W	
R768	1-202-549-00	SOLID	100	20%	1/2W	
R769	1-215-427-00	METAL	1.8K	1%	1/4W	
R770	1-215-437-00	METAL	4.7K	1%	1/4W	
R771	1-215-427-00	METAL	1.8K	1%	1/4W	
R773	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R774	1-249-407-11	CARBON	150	5%	1/4W	
R775	1-202-549-00	SOLID	100	20%	1/2W	

<SPARK GAP>

REF. NO.	PART NO.	DESCRIPTION	REMARK
SG761	1-519-422-11	GAP, SPARK	
SG762	1-519-422-11	GAP, SPARK	
SG763	1-519-422-11	GAP, SPARK	

* * *

*A-1390-594-A ZR BOARD, COMPLETE

REF. NO.	PART NO.	DESCRIPTION	REMARK
	4-382-854-11	SCREW (M3X10), P, SW (+)	

<CAPACITOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
C1401	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1402	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1403	1-102-978-00	CERAMIC	220PF	5%	50V	
C1404	1-107-638-11	ELECT	33MF	20%	160V	
C1405	1-104-665-11	ELECT	100MF	20%	25V	
C1406	1-107-370-11	FILM	0.1MF	10%	200V	
C1407	1-104-665-11	ELECT	100MF	20%	25V	
C1408	1-107-362-11	FILM	0.0047MF	10%	200V	
C1409	1-107-667-11	ELECT	2.2MF	20%	160V	
C1410	1-107-362-11	FILM	0.0047MF	10%	200V	
C1411	1-137-364-11	FILM	0.001MF	5%	50V	
C1412	1-137-364-11	FILM	0.001MF	5%	50V	
C1413	1-161-830-00	CERAMIC	0.0047MF		500V	
C1414	1-104-661-91	ELECT	330MF	20%	16V	
C1415	1-102-947-00	CERAMIC	10PF	0.5PF	50V	
C1416	1-102-973-00	CERAMIC	100PF	5%	50V	

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN1411	* 1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P	

REF. NO.	PART NO.	DESCRIPTION				REMARK
CN1412	*1-564-507-11	PLUG, CONNECTOR 4P				
CN1413	*1-564-506-11	PLUG, CONNECTOR 3P				
CN1414	*1-564-509-11	PLUG, CONNECTOR 6P				
CN1415	*1-564-510-11	PLUG, CONNECTOR 7P				
CN1416	1-695-915-11	TAB (CONTACT)				

<DIODE>

REF. NO.	PART NO.	DESCRIPTION
D1401	8-719-110-88	DIODE RD39ESB2
D1402	8-719-110-88	DIODE RD39ESB2

<TRANSISTOR>

REF. NO.	PART NO.	DESCRIPTION
Q1401	8-729-017-06	TRANSISTOR 2SC4793
Q1402	8-729-017-05	TRANSISTOR 2SA1837
Q1403	8-729-140-96	TRANSISTOR 2SD774-34

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
R1401	1-249-414-11	CARBON	560	5%	1/4W	
R1402	1-249-414-11	CARBON	560	5%	1/4W	
R1403	1-202-822-00	SOLID	2.2K	20%	1/2W	
R1404	1-202-822-00	SOLID	2.2K	20%	1/2W	
R1405	1-249-417-11	CARBON	1K	5%	1/4W	
R1406	1-216-479-11	METAL OXIDE	560	5%	3W	F
R1407	1-249-400-11	CARBON	39	5%	1/4W	F
R1408	1-249-384-11	CARBON	1.8	5%	1/4W	F
R1409	1-249-384-11	CARBON	1.8	5%	1/4W	F
R1410	1-260-311-11	CARBON	39	5%	1/2W	
R1411	1-249-417-11	CARBON	1K	5%	1/4W	F
R1412	1-249-414-11	CARBON	560	5%	1/4W	
R1413	1-249-432-11	CARBON	18K	5%	1/4W	
R1414	1-249-432-11	CARBON	18K	5%	1/4W	
R1415	1-249-414-11	CARBON	560	5%	1/4W	F
R1416	1-216-451-11	METAL OXIDE	120	5%	2W	F
R1417	1-216-475-11	METAL OXIDE	120	5%	3W	F
R1418	1-249-377-11	CARBON	0.47	5%	1/4W	F
R1419	1-249-409-11	CARBON	220	5%	1/4W	
R1420	1-216-475-11	METAL OXIDE	120	5%	3W	F
R1421	1-249-417-11	CARBON	1K	5%	1/4W	

****

*A-1390-595-A ZG BOARD, COMPLETE
****

<CAPACITOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
C1431	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1432	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1433	1-102-973-00	CERAMIC	100PF	5%	50V	

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION
CN1441	*1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P
CN1442	*1-564-507-11	PLUG, CONNECTOR 4P
CN1443	*1-564-506-11	PLUG, CONNECTOR 3P
CN1445	*1-564-510-11	PLUG, CONNECTOR 7P

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
R1431	1-249-414-11	CARBON	560	5%	1/4W	
R1432	1-249-414-11	CARBON	560	5%	1/4W	
R1433	1-202-822-00	SOLID	2.2K	20%	1/2W	
R1434	1-202-822-00	SOLID	2.2K	20%	1/2W	
R1435	1-216-475-11	METAL OXIDE	120	5%	3W	F
R1436	1-216-475-11	METAL OXIDE	120	5%	3W	F
R1437	1-249-417-11	CARBON	1K	5%	1/4W	

****

*A-1390-596-A ZB BOARD, COMPLETE
****

<CAPACITOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
C1461	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1462	1-162-115-00	CERAMIC	330PF	10%	2KV	

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION
CN1471	*1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P
CN1472	*1-564-507-11	PLUG, CONNECTOR 4P
CN1473	*1-564-506-11	PLUG, CONNECTOR 3P

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
R1461	1-249-414-11	CARBON	560	5%	1/4W	
R1462	1-249-414-11	CARBON	560	5%	1/4W	
R1463	1-202-822-00	SOLID	2.2K	20%	1/2W	
R1464	1-202-822-00	SOLID	2.2K	20%	1/2W	
R1465	1-216-475-11	METAL OXIDE	120	5%	3W	F
R1466	1-216-475-11	METAL OXIDE	120	5%	3W	F

****

*A-1621-061-A B BOARD, COMPLETE
****

<CAPACITOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
C1	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2	1-126-933-11	ELECT	100MF	20%	16V	
C3	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C4	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C5	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
C6	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C7	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C8	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V	
C9	1-126-967-11	ELECT	47MF	20%	16V	
C10	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C11	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C12	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C13	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C14	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
C15	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C16	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C17	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C18	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C19	1-126-967-11	ELECT	47MF	20%	16V	
C20	1-164-346-11	CERAMIC CHIP	1MF		16V	
C21	1-164-346-11	CERAMIC CHIP	1MF		16V	
C22	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C23	1-126-959-11	ELECT	0.47MF	20%	50V	
C24	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C25	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C26	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C27	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C28	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C29	1-126-963-11	ELECT	4.7MF	20%	50V	
C30	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C31	1-126-935-11	ELECT	470MF	20%	16V	
C32	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C33	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C34	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C35	1-126-964-11	ELECT	10MF	20%	50V	
C36	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	

REF. NO.	PART NO.	DESCRIPTION			REMARK
C37	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C39	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C40	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C41	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C42	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C43	1-126-964-11	ELECT	10MF	20%	50V
C44	1-126-967-11	ELECT	47MF	20%	16V
C45	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C46	1-126-967-11	ELECT	47MF	20%	16V
C47	1-126-967-11	ELECT	47MF	20%	16V
C48	1-126-933-11	ELECT	100MF	20%	16V
C49	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C50	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C51	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C52	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C53	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C54	1-126-967-11	ELECT	47MF	20%	16V
C55	1-126-933-11	ELECT	100MF	20%	16V
C56	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C57	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C58	1-126-964-11	ELECT	10MF	20%	50V
C59	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C60	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C61	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C62	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C63	1-126-933-11	ELECT	100MF	20%	16V
C64	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C65	1-126-967-11	ELECT	47MF	20%	16V
C66	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C67	1-126-933-11	ELECT	100MF	20%	16V
C68	1-126-933-11	ELECT	100MF	20%	16V
C69	1-126-967-11	ELECT	47MF	20%	16V
C70	1-126-933-11	ELECT	100MF	20%	16V
C71	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C73	1-126-935-11	ELECT	470MF	20%	16V
C75	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C78	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C80	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C81	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C82	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C83	1-126-967-11	ELECT	47MF	20%	16V
C84	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C85	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C86	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C87	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C88	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C89	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C90	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C91	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C94	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C95	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C96	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C97	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C99	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C100	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C101	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C102	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C103	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C104	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C105	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C106	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C107	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C108	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C109	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C110	1-126-933-11	ELECT	100MF	20%	16V
C111	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C112	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C113	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C114	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C115	1-126-960-11	ELECT	1MF	20%	50V
C116	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C117	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C118	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C119	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C120	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C121	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C122	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C123	1-164-346-11	CERAMIC CHIP	1MF		16V
C125	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C126	1-126-964-11	ELECT	10MF	20%	50V
C127	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C128	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C129	1-126-960-11	ELECT	1MF	20%	50V
C130	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C201	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C202	1-126-964-11	ELECT	10MF	20%	50V
C203	1-126-964-11	ELECT	10MF	20%	50V
C204	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C205	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C206	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C207	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C208	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C209	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C210	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C211	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C212	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C213	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C214	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C215	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C216	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C217	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C219	1-126-301-11	ELECT	1MF	20%	50V
C220	1-126-301-11	ELECT	1MF	20%	50V
C221	1-126-967-11	ELECT	47MF	20%	16V
C223	1-164-346-11	CERAMIC CHIP	1MF		16V
C224	1-126-964-11	ELECT	10MF	20%	50V
C225	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C226	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C227	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C228	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C229	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C230	1-126-967-11	ELECT	47MF	20%	16V
C231	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C232	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C233	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C236	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C237	1-126-963-11	ELECT	4.7MF	20%	50V
C238	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C239	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C241	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C242	1-126-956-91	ELECT	0.1MF	20%	50V
C243	1-126-963-11	ELECT	4.7MF	20%	50V
C245	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C246	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C247	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C249	1-126-960-11	ELECT	1MF	20%	50V
C250	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C251	1-126-964-11	ELECT	10MF	20%	50V
C253	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C254	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C255	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C256	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C257	1-164-346-11	CERAMIC CHIP	1MF		16V
C258	1-110-501-11	CERAMIC CHIP	0.33MF	10%	16V
C259	1-126-960-11	ELECT	1MF	20%	50V
C260	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C261	1-126-967-11	ELECT	47MF	20%	16V

B

REF. NO.	PART NO.	DESCRIPTION			REMARK
C262	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C263	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C264	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C266	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C267	1-126-964-11	ELECT	10MF	20%	50V
C268	1-126-964-11	ELECT	10MF	20%	50V
C269	1-126-964-11	ELECT	10MF	20%	50V
C270	1-126-767-11	ELECT	1000MF	20%	16V
C271	1-126-967-11	ELECT	47MF	20%	16V
C272	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C273	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C274	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C275	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C276	1-126-964-11	ELECT	10MF	20%	50V
C277	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C278	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C279	1-164-346-11	CERAMIC CHIP	1MF		16V
C280	1-164-346-11	CERAMIC CHIP	1MF		16V
C281	1-164-346-11	CERAMIC CHIP	1MF		16V
C282	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C283	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C284	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C285	1-164-346-11	CERAMIC CHIP	1MF		16V
C286	1-164-346-11	CERAMIC CHIP	1MF		16V
C287	1-164-346-11	CERAMIC CHIP	1MF		16V
C288	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C289	1-126-963-11	ELECT	4.7MF	20%	50V
C290	1-126-301-11	ELECT	1MF	20%	50V
C291	1-126-964-11	ELECT	10MF	20%	50V
C293	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C294	1-104-664-11	ELECT	47MF	20%	25V
C296	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C297	1-126-967-11	ELECT	47MF	20%	16V
C298	1-126-935-11	ELECT	470MF	20%	16V
C299	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C300	1-126-964-11	ELECT	10MF	20%	50V
C301	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C302	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-126-967-11	ELECT	47MF	20%	16V
C306	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C307	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C308	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C309	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C310	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C311	1-126-933-11	ELECT	100MF	20%	16V
C312	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C313	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C314	1-126-935-11	ELECT	470MF	20%	16V
C315	1-126-933-11	ELECT	100MF	20%	16V
C316	1-126-960-11	ELECT	1MF	20%	50V
C317	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C318	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C320	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C321	1-126-933-11	ELECT	100MF	20%	16V
C322	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C323	1-126-934-11	ELECT	220MF	20%	16V
C324	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C325	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C326	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C327	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C328	1-126-964-11	ELECT	10MF	20%	50V
C329	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C330	1-126-964-11	ELECT	10MF	20%	50V
C331	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C332	1-126-964-11	ELECT	10MF	20%	50V
C333	1-126-964-11	ELECT	10MF	20%	50V
C334	1-164-346-11	CERAMIC CHIP	1MF		16V
C335	1-164-346-11	CERAMIC CHIP	1MF		16V
C336	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C337	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C338	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C339	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C340	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C341	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C342	1-126-964-11	ELECT	10MF	20%	50V
C343	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C344	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C345	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C347	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C348	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C349	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C350	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C351	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C352	1-126-964-11	ELECT	10MF	20%	50V
C353	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C354	1-126-964-11	ELECT	10MF	20%	50V
C355	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C356	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C358	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C359	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C360	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C361	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C362	1-126-967-11	ELECT	47MF	20%	16V
C363	1-126-964-11	ELECT	10MF	20%	50V
C364	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C365	1-126-963-11	ELECT	4.7MF	20%	50V
C366	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C367	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C368	1-126-967-11	ELECT	47MF	20%	16V
C369	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C370	1-126-964-11	ELECT	10MF	20%	50V
C371	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C372	1-126-964-11	ELECT	10MF	20%	50V
C374	1-126-964-11	ELECT	10MF	20%	50V
C375	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C376	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C377	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C378	1-126-959-11	ELECT	0.47MF	20%	50V
C379	1-126-935-11	ELECT	470MF	20%	16V
C380	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C382	1-216-295-00	CONDUCTOR, CHIP			
C385	1-216-295-00	CONDUCTOR, CHIP			
C387	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C388	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C389	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C391	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C416	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C538	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C539	1-126-967-11	ELECT	47MF	20%	16V
C540	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C541	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C542	1-126-301-11	ELECT	1MF	20%	50V
C543	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C544	1-126-967-11	ELECT	47MF	20%	16V
C545	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C546	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C547	1-126-301-11	ELECT	1MF	20%	50V
C548	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C549	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C601	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C602	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C603	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C604	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C605	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C606	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

REF. NO.	PART NO.	DESCRIPTION	REMARK
C607	1-110-501-11	CERAMIC CHIP 0.33MF 10%	16V
C608	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V
C609	1-126-967-11	ELECT 47MF 20%	50V
C610	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C611	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C612	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C613	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C614	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C615	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C616	1-126-967-11	ELECT 47MF 20%	50V
C617	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C618	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C620	1-126-960-11	ELECT 1MF 20%	50V
C621	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C622	1-113-503-11	CERAMIC CHIP 0.0039MF 5%	25V
C623	1-126-960-11	ELECT 1MF 20%	50V
C624	1-126-934-11	ELECT 220MF 20%	16V
C625	1-164-695-11	CERAMIC CHIP 0.0022MF 5%	50V
C626	1-163-139-00	CERAMIC CHIP 820PF 5%	50V
C627	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C628	1-163-012-00	CERAMIC CHIP 0.0018MF 5%	50V
C629	1-113-503-11	CERAMIC CHIP 0.0039MF 5%	25V
C630	1-163-017-00	CERAMIC CHIP 0.0047MF 10%	50V
C631	1-163-127-00	CERAMIC CHIP 270PF 5%	50V
C632	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
		<FILTER>	
CF401	1-409-327-00	TRAP, CERAMIC (6.5MHZ)	
		<CONNECTOR>	
CN1	* 1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
CN2	* 1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
CN3	* 1-564-521-11	PLUG, CONNECTOR 6P	
CN4	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
CN5	1-564-523-11	PLUG, CONNECTOR 8P	
CN201	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN202	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN203	1-564-511-11	PLUG, CONNECTOR 8P	
CN204	* 1-564-514-11	PLUG, CONNECTOR 11P	
CN205	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN206	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN601	* 1-564-508-11	PLUG, CONNECTOR 5P	
		<DIODE>	
D1	8-719-914-44	DIODE DAP202K	
D2	8-719-914-44	DIODE DAP202K	
D3	8-719-914-43	DIODE DAN202K	
D4	8-719-914-43	DIODE DAN202K	
D201	8-719-914-43	DIODE DAN202K	
D202	8-719-914-43	DIODE DAN202K	
D203	8-719-914-43	DIODE DAN202K	
D204	8-719-914-43	DIODE DAN202K	
D205	8-719-914-43	DIODE DAN202K	
D206	8-719-914-43	DIODE DAN202K	
D207	8-719-106-23	DIODE RD7.5M-B2	
D208	8-719-914-43	DIODE DAN202K	
D209	8-719-047-37	DIODE BAS16	
D210	8-719-047-37	DIODE BAS16	
D211	8-719-914-43	DIODE DAN202K	
D212	8-719-914-43	DIODE DAN202K	
D215	8-719-914-43	DIODE DAN202K	
D217	8-719-914-43	DIODE DAN202K	
D218	8-719-914-43	DIODE DAN202K	
D220	8-719-914-43	DIODE DAN202K	
D221	8-719-914-43	DIODE DAN202K	
D222	8-719-914-43	DIODE DAN202K	

REF. NO.	PART NO.	DESCRIPTION	REMARK
D223	8-719-914-43	DIODE DAN202K	
D224	8-719-914-43	DIODE DAN202K	
D225	8-719-914-43	DIODE DAN202K	
D226	8-719-914-43	DIODE DAN202K	
D227	8-719-914-43	DIODE DAN202K	
D602	8-719-914-43	DIODE DAN202K	
		<DELAY LINE>	
DL201	1-415-810-11	DELAY LINE	
		<FERRITE BEAD>	
FB1	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB2	1-412-911-11	INDUCTOR, FERRITE BEAD	
		<FILTER>	
FL1	1-236-620-11	FILTER, LOW PASS	
FL2	1-236-620-11	FILTER, LOW PASS	
FL3	1-236-620-11	FILTER, LOW PASS	
FL201	1-239-803-11	FILTER, EMI	
		<IC>	
IC1	8-752-372-78	IC CXD2024AQ	
IC2	8-759-711-62	IC NJM2240M	
IC3	8-759-439-58	IC TDA9143/N2	
IC4	8-759-710-29	IC NJM2235M	
IC5	8-759-288-85	IC TDA4665T-T	
IC6	8-759-324-35	IC SDA9188-3XPGEG	
IC7	8-759-248-15	IC SDA9187-2XGEG	
IC8	8-759-183-35	IC TDA9160A	
IC10	8-759-288-85	IC TDA4665T-T	
IC201	8-759-370-64	IC TPU3040-TC20	
IC202	8-759-710-07	IC NJM2234M(T1)	
IC203	8-759-341-71	IC MB814100A-70PJ-T6	
IC204	8-759-277-89	IC ST24C16CM1-TR/A	
IC205	8-759-041-54	IC MN1382S	
IC206	8-759-275-36	IC TDA4780/V3	
IC207	8-752-873-89	IC CXP85460-033Q	
IC208	8-752-012-52	IC CX20125	
IC209	8-759-085-34	IC TDA2822D	
IC210	8-759-008-67	IC MC14066BF	
IC211	8-759-011-65	IC MC74HC4053F	
IC212	8-759-376-80	IC MSP3410B-PS-F7-T	
IC213	8-759-998-98	IC LM358D	
IC214	8-759-037-79	IC MC74HC163AF	
IC601	8-752-347-92	IC CXD2018Q	
IC602	8-759-998-98	IC LM358D	
IC603	8-759-083-85	IC LA7856A	
		<CHIP CONDUCTOR>	
JR202	1-216-295-00	CONDUCTOR, CHIP	
JR203	1-216-295-00	CONDUCTOR, CHIP	
		<COIL>	
L1	1-414-235-11	INDUCTOR, FERRITE BEAD	
L2	1-414-235-11	INDUCTOR, FERRITE BEAD	
L3	1-414-235-11	INDUCTOR, FERRITE BEAD	
L4	1-414-235-11	INDUCTOR, FERRITE BEAD	
L5	1-414-235-11	INDUCTOR, FERRITE BEAD	
L6	1-414-235-11	INDUCTOR, FERRITE BEAD	
L7	1-408-417-00	INDUCTOR 47UH	
L8	1-408-421-00	INDUCTOR 100UH	
L9	1-216-295-00	CONDUCTOR, CHIP	
L10	1-408-417-00	INDUCTOR 47UH	

B

REF. NO.	PART NO.	DESCRIPTION	REMARK
L11	1-414-235-11	INDUCTOR, FERRITE BEAD	
L12	1-408-421-00	INDUCTOR 100UH	
L13	1-216-295-00	CONDUCTOR, CHIP	
L14	1-408-418-00	INDUCTOR 56UH	
L15	1-408-409-00	INDUCTOR 10UH	
L16	1-414-235-11	INDUCTOR, FERRITE BEAD	
L17	1-414-235-11	INDUCTOR, FERRITE BEAD	
L18	1-414-235-11	INDUCTOR, FERRITE BEAD	
L19	1-414-235-11	INDUCTOR, FERRITE BEAD	
L20	1-414-235-11	INDUCTOR, FERRITE BEAD	
L21	1-408-417-00	INDUCTOR 47UH	
L22	1-414-235-11	INDUCTOR, FERRITE BEAD	
L23	1-216-295-00	CONDUCTOR, CHIP	
L24	1-412-533-21	INDUCTOR 47UH	
L25	1-408-417-00	INDUCTOR 47UH	
L26	1-216-295-00	CONDUCTOR, CHIP	
L27	1-216-295-00	CONDUCTOR, CHIP	
L28	1-216-295-00	CONDUCTOR, CHIP	
L29	1-216-295-00	CONDUCTOR, CHIP	
L30	1-216-295-00	CONDUCTOR, CHIP	
L31	1-216-295-00	CONDUCTOR, CHIP	
L32	1-216-295-00	CONDUCTOR, CHIP	
L33	1-216-295-00	CONDUCTOR, CHIP	
L34	1-216-295-00	CONDUCTOR, CHIP	
L35	1-216-295-00	CONDUCTOR, CHIP	
L36	1-216-295-00	CONDUCTOR, CHIP	
L201	1-414-234-11	INDUCTOR, FERRITE BEAD	
L202	1-408-417-00	INDUCTOR 47UH	
L203	1-408-409-00	INDUCTOR 10UH	
L204	1-408-417-00	INDUCTOR 47UH	
L205	1-408-409-00	INDUCTOR 10UH	
L206	1-408-405-00	INDUCTOR 4.7UH	
L207	1-408-417-00	INDUCTOR 47UH	
L208	1-408-409-00	INDUCTOR 10UH	
L209	1-408-417-00	INDUCTOR 47UH	
L210	1-408-417-00	INDUCTOR 47UH	
L211	1-408-417-00	INDUCTOR 47UH	
L212	1-408-417-00	INDUCTOR 47UH	
L213	1-408-417-00	INDUCTOR 47UH	
L214	1-408-409-00	INDUCTOR 10UH	
L215	1-414-234-11	INDUCTOR, FERRITE BEAD	
L216	1-408-406-00	INDUCTOR 5.6UH	
L217	1-408-409-00	INDUCTOR 10UH	
L218	1-414-235-11	INDUCTOR, FERRITE BEAD	
L219	1-408-417-00	INDUCTOR 47UH	
L220	1-408-417-00	INDUCTOR 47UH	
L221	1-408-397-00	INDUCTOR 1UH	
L601	1-408-417-00	INDUCTOR 47UH	
L602	1-408-417-00	INDUCTOR 47UH	
L603	1-408-409-00	INDUCTOR 10UH	
		<TRANSISTOR>	
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q6	8-729-216-22	TRANSISTOR 2SA1162-G	
Q7	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q9	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q10	8-729-216-22	TRANSISTOR 2SA1162-G	
Q11	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q13	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q14	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q15	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q16	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q17	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q18	8-729-216-22	TRANSISTOR 2SA1162-G	
Q19	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q20	8-729-216-22	TRANSISTOR 2SA1162-G	
Q22	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q23	8-729-216-22	TRANSISTOR 2SA1162-G	
Q24	8-729-216-22	TRANSISTOR 2SA1162-G	
Q25	8-729-216-22	TRANSISTOR 2SA1162-G	
Q26	8-729-216-22	TRANSISTOR 2SA1162-G	
Q27	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q28	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q29	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q30	8-729-216-22	TRANSISTOR 2SA1162-G	
Q32	8-729-216-22	TRANSISTOR 2SA1162-G	
Q33	8-729-216-22	TRANSISTOR 2SA1162-G	
Q34	8-729-216-22	TRANSISTOR 2SA1162-G	
Q35	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q36	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q37	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q38	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q41	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q42	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q43	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q44	8-729-216-22	TRANSISTOR 2SA1162-G	
Q45	8-729-216-22	TRANSISTOR 2SA1162-G	
Q46	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q47	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q48	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q49	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q52	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q201	8-729-216-22	TRANSISTOR 2SA1162-G	
Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q203	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q204	8-729-216-22	TRANSISTOR 2SA1162-G	
Q205	8-729-216-22	TRANSISTOR 2SA1162-G	
Q206	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q207	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q208	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q209	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q210	8-729-216-22	TRANSISTOR 2SA1162-G	
Q211	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q212	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q213	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q214	8-729-216-22	TRANSISTOR 2SA1162-G	
Q215	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q216	8-729-216-22	TRANSISTOR 2SA1162-G	
Q218	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q221	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q222	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q225	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q226	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q227	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q228	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q229	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q230	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q231	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q232	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q233	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q234	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q235	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q236	8-729-216-22	TRANSISTOR 2SA1162-G	
Q237	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q238	8-729-216-22	TRANSISTOR 2SA1162-G	
Q239	8-729-216-22	TRANSISTOR 2SA1162-G	
Q240	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q241	8-729-216-22	TRANSISTOR 2SA1162-G	
Q242	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q243	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q244	8-729-216-22	TRANSISTOR 2SA1162-G	
Q245	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q246	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

REF. NO.	PART NO.	DESCRIPTION	REMARK
Q247	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q248	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q249	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q250	8-729-216-22	TRANSISTOR 2SA1162-G	
Q251	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q252	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q253	8-729-216-22	TRANSISTOR 2SA1162-G	
Q254	8-729-216-22	TRANSISTOR 2SA1162-G	
Q255	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q256	8-729-216-22	TRANSISTOR 2SA1162-G	
Q257	8-729-216-22	TRANSISTOR 2SA1162-G	
Q258	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q259	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q260	8-729-216-22	TRANSISTOR 2SA1162-G	
Q261	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q262	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q263	8-729-216-22	TRANSISTOR 2SA1162-G	
Q264	8-729-216-22	TRANSISTOR 2SA1162-G	
Q265	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q266	8-729-216-22	TRANSISTOR 2SA1162-G	
Q267	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q268	8-729-216-22	TRANSISTOR 2SA1162-G	
Q269	8-729-216-22	TRANSISTOR 2SA1162-G	
Q270	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q271	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q272	8-729-216-22	TRANSISTOR 2SA1162-G	
Q273	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q274	8-729-216-22	TRANSISTOR 2SA1162-G	
Q275	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q276	8-729-216-22	TRANSISTOR 2SA1162-G	
Q277	8-729-216-22	TRANSISTOR 2SA1162-G	
Q278	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q279	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q280	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q281	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q282	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q286	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q287	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q601	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q603	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION			REMARK
R1	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2	1-216-025-00	METAL GLAZE	100	5%	1/10W
R3	1-216-025-00	METAL GLAZE	100	5%	1/10W
R4	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R6	1-216-295-00	CONDUCTOR, CHIP			
R7	1-216-295-00	CONDUCTOR, CHIP			
R9	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R10	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R11	1-216-033-00	METAL GLAZE	220	5%	1/10W
R12	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R13	1-216-025-00	METAL GLAZE	100	5%	1/10W
R14	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R15	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R16	1-216-025-00	METAL GLAZE	100	5%	1/10W
R17	1-216-041-00	METAL GLAZE	470	5%	1/10W
R18	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R19	1-216-047-91	METAL GLAZE	820	5%	1/10W
R20	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R21	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R22	1-216-045-00	METAL GLAZE	680	5%	1/10W
R23	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R24	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R25	1-216-025-00	METAL GLAZE	100	5%	1/10W
R26	1-216-025-00	METAL GLAZE	100	5%	1/10W
R27	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R28	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R29	1-216-033-00	METAL GLAZE	220	5%	1/10W
R30	1-216-025-00	METAL GLAZE	100	5%	1/10W
R31	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R32	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R33	1-216-047-91	METAL GLAZE	820	5%	1/10W
R34	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R35	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R36	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R37	1-216-025-00	METAL GLAZE	100	5%	1/10W
R38	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R39	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R40	1-216-025-00	METAL GLAZE	100	5%	1/10W
R41	1-216-025-00	METAL GLAZE	100	5%	1/10W
R42	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R43	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R44	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R45	1-216-043-91	METAL GLAZE	560	5%	1/10W
R46	1-216-033-00	METAL GLAZE	220	5%	1/10W
R47	1-216-033-00	METAL GLAZE	220	5%	1/10W
R48	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R49	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W
R50	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R51	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R52	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R53	1-216-025-00	METAL GLAZE	100	5%	1/10W
R54	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R55	1-216-033-00	METAL GLAZE	220	5%	1/10W
R56	1-216-033-00	METAL GLAZE	220	5%	1/10W
R57	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R58	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R59	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R60	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R61	1-216-043-91	METAL GLAZE	560	5%	1/10W
R62	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R63	1-216-041-00	METAL GLAZE	470	5%	1/10W
R64	1-216-043-91	METAL GLAZE	560	5%	1/10W
R65	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R66	1-216-025-00	METAL GLAZE	100	5%	1/10W
R67	1-216-025-00	METAL GLAZE	100	5%	1/10W
R68	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R69	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R70	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R71	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R72	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R73	1-216-025-00	METAL GLAZE	100	5%	1/10W
R74	1-216-043-91	METAL GLAZE	560	5%	1/10W
R75	1-216-033-00	METAL GLAZE	220	5%	1/10W
R76	1-216-025-00	METAL GLAZE	100	5%	1/10W
R77	1-216-295-00	CONDUCTOR, CHIP			
R78	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R79	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R80	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R83	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R84	1-216-045-00	METAL GLAZE	680	5%	1/10W
R85	1-216-295-00	CONDUCTOR, CHIP			
R86	1-216-037-00	METAL GLAZE	330	5%	1/10W
R87	1-216-031-00	METAL GLAZE	180	5%	1/10W
R88	1-216-043-91	METAL GLAZE	560	5%	1/10W
R89	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R90	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R91	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R92	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R93	1-216-295-00	CONDUCTOR, CHIP			
R94	1-216-043-91	METAL GLAZE	560	5%	1/10W

B

REF. NO.	PART NO.	DESCRIPTION		REMARK
R95	1-216-043-91	METAL GLAZE 560	5%	1/10W
R96	1-216-025-00	METAL GLAZE 100	5%	1/10W
R97	1-216-025-00	METAL GLAZE 100	5%	1/10W
R98	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R99	1-216-045-00	METAL GLAZE 680	5%	1/10W
R100	1-216-295-00	CONDUCTOR, CHIP		
R101	1-216-033-00	METAL GLAZE 220	5%	1/10W
R102	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R105	1-216-025-00	METAL GLAZE 100	5%	1/10W
R106	1-216-025-00	METAL GLAZE 100	5%	1/10W
R107	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R108	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R109	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R110	1-216-025-00	METAL GLAZE 100	5%	1/10W
R111	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R113	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R114	1-216-025-91	METAL GLAZE 100	5%	1/10W
R116	1-216-041-00	METAL GLAZE 470	5%	1/10W
R117	1-216-046-00	METAL GLAZE 750	5%	1/10W
R118	1-216-025-00	METAL GLAZE 100	5%	1/10W
R119	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R120	1-216-295-00	CONDUCTOR, CHIP		
R121	1-216-041-00	METAL GLAZE 470	5%	1/10W
R122	1-216-025-00	METAL GLAZE 100	5%	1/10W
R123	1-216-295-00	CONDUCTOR, CHIP		
R124	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R125	1-216-295-91	CONDUCTOR, CHIP		
R127	1-216-025-00	METAL GLAZE 100	5%	1/10W
R128	1-216-025-00	METAL GLAZE 100	5%	1/10W
R130	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R131	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R133	1-216-025-00	METAL GLAZE 100	5%	1/10W
R134	1-216-025-00	METAL GLAZE 100	5%	1/10W
R136	1-216-025-00	METAL GLAZE 100	5%	1/10W
R137	1-216-025-00	METAL GLAZE 100	5%	1/10W
R138	1-216-043-91	METAL GLAZE 560	5%	1/10W
R140	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R142	1-216-075-00	METAL GLAZE 12K	5%	1/10W
R143	1-216-025-00	METAL GLAZE 100	5%	1/10W
R144	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R146	1-216-043-91	METAL GLAZE 560	5%	1/10W
R147	1-216-025-00	METAL GLAZE 100	5%	1/10W
R148	1-216-047-91	METAL GLAZE 820	5%	1/10W
R154	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R155	1-216-295-91	CONDUCTOR, CHIP		
R156	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R158	1-216-043-91	METAL GLAZE 560	5%	1/10W
R159	1-216-043-91	METAL GLAZE 560	5%	1/10W
R162	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R163	1-216-079-00	METAL GLAZE 18K	5%	1/10W
R164	1-216-079-00	METAL GLAZE 18K	5%	1/10W
R165	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R166	1-216-083-00	METAL GLAZE 27K	5%	1/10W
R167	1-216-045-00	METAL GLAZE 680	5%	1/10W
R168	1-216-295-91	CONDUCTOR, CHIP		
R169	1-216-025-00	METAL GLAZE 100	5%	1/10W
R170	1-216-025-00	METAL GLAZE 100	5%	1/10W
R171	1-216-025-00	METAL GLAZE 100	5%	1/10W
R172	1-216-039-00	METAL GLAZE 390	5%	1/10W
R173	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R174	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R175	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R176	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R177	1-216-025-00	METAL GLAZE 100	5%	1/10W
R179	1-216-045-00	METAL GLAZE 680	5%	1/10W
R180	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R181	1-216-025-00	METAL GLAZE 100	5%	1/10W
R182	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R183	1-216-091-00	METAL GLAZE 56K	5%	1/10W
R184	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R185	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R186	1-216-039-00	METAL GLAZE 390	5%	1/10W
R188	1-216-043-91	METAL GLAZE 560	5%	1/10W
R189	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R190	1-216-025-00	METAL GLAZE 100	5%	1/10W
R191	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R192	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R193	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R194	1-216-025-00	METAL GLAZE 100	5%	1/10W
R195	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R196	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R197	1-216-025-00	METAL GLAZE 100	5%	1/10W
R198	1-216-025-00	METAL GLAZE 100	5%	1/10W
R199	1-216-025-00	METAL GLAZE 100	5%	1/10W
R201	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R202	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R203	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R204	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R205	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R206	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R207	1-216-025-00	METAL GLAZE 100	5%	1/10W
R208	1-216-022-00	METAL GLAZE 75	5%	1/10W
R209	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R210	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R211	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W
R212	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R213	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R214	1-216-033-00	METAL GLAZE 220	5%	1/10W
R215	1-216-041-00	METAL GLAZE 470	5%	1/10W
R216	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R217	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R218	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R219	1-216-025-00	METAL GLAZE 100	5%	1/10W
R220	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R221	1-216-033-00	METAL GLAZE 220	5%	1/10W
R222	1-216-041-00	METAL GLAZE 470	5%	1/10W
R223	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R224	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R225	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R226	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W
R227	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R228	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R229	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R230	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R231	1-216-033-00	METAL GLAZE 220	5%	1/10W
R232	1-216-041-00	METAL GLAZE 470	5%	1/10W
R233	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R234	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R235	1-216-025-00	METAL GLAZE 100	5%	1/10W
R236	1-216-033-00	METAL GLAZE 220	5%	1/10W
R237	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R238	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R239	1-216-295-00	CONDUCTOR, CHIP		
R240	1-216-033-00	METAL GLAZE 220	5%	1/10W
R241	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R242	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R243	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R244	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R245	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R247	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W
R248	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R249	1-216-025-00	METAL GLAZE 100	5%	1/10W
R250	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R251	1-216-041-00	METAL GLAZE 470	5%	1/10W
R252	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R253	1-216-025-00	METAL GLAZE 100	5%	1/10W
R254	1-216-295-00	CONDUCTOR, CHIP		

REF. NO.	PART NO.	DESCRIPTION			REMARK
R255	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R256	1-216-025-00	METAL GLAZE	100	5%	1/10W
R257	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R258	1-216-025-00	METAL GLAZE	100	5%	1/10W
R259	1-216-033-00	METAL GLAZE	220	5%	1/10W
R260	1-216-033-00	METAL GLAZE	220	5%	1/10W
R261	1-216-025-00	METAL GLAZE	100	5%	1/10W
R262	1-216-025-00	METAL GLAZE	100	5%	1/10W
R263	1-216-033-00	METAL GLAZE	220	5%	1/10W
R264	1-216-033-00	METAL GLAZE	220	5%	1/10W
R265	1-216-025-00	METAL GLAZE	100	5%	1/10W
R266	1-216-033-00	METAL GLAZE	220	5%	1/10W
R267	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R268	1-216-043-91	METAL GLAZE	560	5%	1/10W
R274	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R275	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R277	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R278	1-216-037-00	METAL GLAZE	330	5%	1/10W
R279	1-216-295-00	CONDUCTOR, CHIP			
R281	1-216-025-00	METAL GLAZE	100	5%	1/10W
R282	1-216-025-00	METAL GLAZE	100	5%	1/10W
R283	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R284	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R285	1-216-295-00	CONDUCTOR, CHIP			
R287	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R290	1-216-041-00	METAL GLAZE	470	5%	1/10W
R291	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R292	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R293	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R294	1-216-033-00	METAL GLAZE	220	5%	1/10W
R295	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R297	1-216-037-00	METAL GLAZE	330	5%	1/10W
R298	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R299	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R300	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R302	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R305	1-216-035-00	METAL GLAZE	270	5%	1/10W
R306	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R307	1-216-033-00	METAL GLAZE	220	5%	1/10W
R308	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R311	1-216-033-00	METAL GLAZE	220	5%	1/10W
R312	1-216-037-00	METAL GLAZE	330	5%	1/10W
R313	1-216-025-00	METAL GLAZE	100	5%	1/10W
R314	1-216-025-00	METAL GLAZE	100	5%	1/10W
R315	1-216-025-00	METAL GLAZE	100	5%	1/10W
R316	1-216-025-00	METAL GLAZE	100	5%	1/10W
R317	1-216-025-00	METAL GLAZE	100	5%	1/10W
R318	1-216-025-00	METAL GLAZE	100	5%	1/10W
R319	1-216-025-00	METAL GLAZE	100	5%	1/10W
R320	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R321	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R322	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R323	1-216-025-00	METAL GLAZE	100	5%	1/10W
R324	1-216-025-00	METAL GLAZE	100	5%	1/10W
R325	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R327	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R328	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R329	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R330	1-218-756-11	METAL CHIP	150K	0.50%	1/10W
R331	1-216-031-00	METAL GLAZE	180	5%	1/10W
R332	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R333	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R334	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R335	1-216-039-00	METAL GLAZE	390	5%	1/10W
R336	1-216-033-00	METAL GLAZE	220	5%	1/10W
R337	1-216-025-00	METAL GLAZE	100	5%	1/10W
R338	1-216-025-00	METAL GLAZE	100	5%	1/10W
R339	1-216-039-00	METAL GLAZE	390	5%	1/10W
R340	1-216-039-00	METAL GLAZE	390	5%	1/10W
R341	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R342	1-216-039-00	METAL GLAZE	390	5%	1/10W
R343	1-216-043-91	METAL GLAZE	560	5%	1/10W
R344	1-216-045-00	METAL GLAZE	680	5%	1/10W
R345	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R346	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R347	1-208-845-11	METAL GLAZE	1M	5%	1/10W
R348	1-218-754-11	METAL CHIP	120K	0.50%	1/10W
R349	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R350	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R351	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R352	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R353	1-216-033-00	METAL GLAZE	220	5%	1/10W
R354	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R355	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R356	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R358	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R359	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R360	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R361	1-216-041-00	METAL GLAZE	470	5%	1/10W
R362	1-216-041-00	METAL GLAZE	470	5%	1/10W
R363	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R364	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R365	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R366	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R367	1-216-025-00	METAL GLAZE	100	5%	1/10W
R368	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R369	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R370	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R371	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R372	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R373	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R374	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R375	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R376	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R377	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R378	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R379	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R380	1-216-041-00	METAL GLAZE	470	5%	1/10W
R381	1-216-041-00	METAL GLAZE	470	5%	1/10W
R382	1-216-041-00	METAL GLAZE	470	5%	1/10W
R383	1-216-041-00	METAL GLAZE	470	5%	1/10W
R384	1-216-041-00	METAL GLAZE	470	5%	1/10W
R385	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R386	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R387	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R388	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R389	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R390	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R391	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R392	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R393	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R394	1-216-025-00	METAL GLAZE	100	5%	1/10W
R395	1-216-047-91	METAL GLAZE	820	5%	1/10W
R396	1-216-047-91	METAL GLAZE	820	5%	1/10W
R397	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R398	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R399	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R400	1-216-025-00	METAL GLAZE	100	5%	1/10W
R401	1-216-025-00	METAL GLAZE	100	5%	1/10W
R402	1-216-025-00	METAL GLAZE	100	5%	1/10W
R403	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R404	1-216-107-00	METAL GLAZE	270K	5%	1/10W
R406	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R407	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R408	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R409	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R410	1-216-047-91	METAL GLAZE	820	5%	1/10W

B

REF. NO.	PART NO.	DESCRIPTION			REMARK
R411	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R412	1-216-295-00	CONDUCTOR, CHIP			
R413	1-216-025-00	METAL GLAZE	100	5%	1/10W
R414	1-216-025-00	METAL GLAZE	100	5%	1/10W
R415	1-216-047-91	METAL GLAZE	820	5%	1/10W
R416	1-216-043-91	METAL GLAZE	560	5%	1/10W
R417	1-216-045-00	METAL GLAZE	680	5%	1/10W
R418	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R419	1-216-001-00	METAL GLAZE	10	5%	1/10W
R420	1-216-025-00	METAL GLAZE	100	5%	1/10W
R421	1-216-295-00	CONDUCTOR, CHIP			
R422	1-216-041-00	METAL GLAZE	470	5%	1/10W
R423	1-216-041-00	METAL GLAZE	470	5%	1/10W
R424	1-216-037-00	METAL GLAZE	330	5%	1/10W
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R426	1-216-037-00	METAL GLAZE	330	5%	1/10W
R427	1-216-025-00	METAL GLAZE	100	5%	1/10W
R428	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R429	1-216-041-00	METAL GLAZE	470	5%	1/10W
R430	1-216-045-00	METAL GLAZE	680	5%	1/10W
R431	1-216-041-00	METAL GLAZE	470	5%	1/10W
R432	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R433	1-249-399-11	CARBON	33	5%	1/4W F
R434	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R435	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R436	1-216-037-00	METAL GLAZE	330	5%	1/10W
R437	1-216-039-00	METAL GLAZE	390	5%	1/10W
R438	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R439	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R440	1-216-031-00	METAL GLAZE	180	5%	1/10W
R441	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R442	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R443	1-216-033-00	METAL GLAZE	220	5%	1/10W
R444	1-216-033-00	METAL GLAZE	220	5%	1/10W
R445	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R446	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R447	1-249-389-11	CARBON	4.7	5%	1/4W F
R448	- 1-216-013-00	METAL GLAZE	33	5%	1/10W
R449	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R450	1-216-039-00	METAL GLAZE	390	5%	1/10W
R451	1-216-041-00	METAL GLAZE	470	5%	1/10W
R452	1-216-025-00	METAL GLAZE	100	5%	1/10W
R453	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R454	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R455	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R456	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R457	1-216-025-00	METAL GLAZE	100	5%	1/10W
R458	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R459	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R460	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R461	1-216-041-00	METAL GLAZE	470	5%	1/10W
R462	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R463	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R464	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R465	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R466	1-216-041-00	METAL GLAZE	470	5%	1/10W
R467	1-216-047-91	METAL GLAZE	820	5%	1/10W
R468	1-216-047-91	METAL GLAZE	820	5%	1/10W
R469	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R470	1-249-389-11	CARBON	4.7	5%	1/4W F
R471	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R472	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R473	1-216-033-00	METAL GLAZE	220	5%	1/10W
R474	1-216-045-00	METAL GLAZE	680	5%	1/10W
R475	1-216-041-00	METAL GLAZE	470	5%	1/10W
R476	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R477	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R478	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R479	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R480	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R481	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R482	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R483	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R484	1-216-045-00	METAL GLAZE	680	5%	1/10W
R485	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R486	1-216-033-00	METAL GLAZE	220	5%	1/10W
R487	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R488	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R489	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R490	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R492	1-216-295-00	CONDUCTOR, CHIP			
R493	1-216-033-00	METAL GLAZE	220	5%	1/10W
R494	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R495	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R496	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R497	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R498	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R499	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R500	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R501	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R502	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R503	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R504	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R505	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R506	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R507	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R508	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R509	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R510	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R511	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R512	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R513	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R514	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R515	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R516	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R517	1-216-295-00	CONDUCTOR, CHIP			
R519	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R520	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R521	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R522	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R527	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R528	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R530	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R531	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W
R532	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R533	1-216-045-00	METAL GLAZE	680	5%	1/10W
R534	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R535	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R536	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R537	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R538	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R539	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R540	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R541	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R542	1-208-845-11	METAL GLAZE	1M	5%	1/10W
R543	1-216-045-00	METAL GLAZE	680	5%	1/10W
R545	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R546	1-216-033-00	METAL GLAZE	220	5%	1/10W
R547	1-216-001-00	METAL GLAZE	10	5%	1/10W
R548	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R551	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R553	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R555	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R556	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R558	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R559	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK	
R561	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R562	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R563	1-249-402-11	CARBON	56	5%	1/4W	F
R565	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R566	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R567	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R571	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R574	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R575	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R576	1-249-397-11	CARBON	22	5%	1/4W	F
R577	1-249-397-11	CARBON	22	5%	1/4W	F
R580	1-216-295-00	CONDUCTOR, CHIP				
R581	1-216-295-00	CONDUCTOR, CHIP				
R584	1-216-295-00	CONDUCTOR, CHIP				
R585	1-216-295-00	CONDUCTOR, CHIP				
R588	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R589	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R590	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R591	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R601	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R602	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R603	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R604	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R605	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R606	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R607	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R608	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R609	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R610	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R611	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R612	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R613	1-216-295-00	CONDUCTOR, CHIP				
R614	1-216-295-00	CONDUCTOR, CHIP				
R615	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R616	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R617	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R618	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R620	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	
R622	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R623	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R624	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R625	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R627	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R628	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R629	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R631	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R632	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R633	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R634	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R635	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R636	1-216-295-00	CONDUCTOR, CHIP				
R640	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R641	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R4102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4103	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R4104	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4105	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4106	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4107	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4108	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4109	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4110	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R4111	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R4112	1-216-295-00	CONDUCTOR, CHIP				
R4113	1-216-295-00	CONDUCTOR, CHIP				
R4118	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R4120	1-216-295-00	CONDUCTOR, CHIP				
R4121	1-216-295-00	CONDUCTOR, CHIP				
R4124	1-216-295-00	CONDUCTOR, CHIP				
R4125	1-216-295-00	CONDUCTOR, CHIP				
R4127	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R4128	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R4129	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4130	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R4131	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

<VARIABLE RESISTOR>

RV1	1-241-769-11	RES, ADJ, CARBON 470K
RV2	1-241-769-11	RES, ADJ, CARBON 470K
RV601	1-241-763-11	RES, ADJ, CERMET 4.7K

<CRYSTAL>

X1	1-567-505-11	OSCILLATOR, CRYSTAL
X2	1-567-504-11	OSCILLATOR, CRYSTAL
X3	1-567-505-11	OSCILLATOR, CRYSTAL
X4	1-567-504-11	OSCILLATOR, CRYSTAL
X5	1-760-095-21	VIBRATOR, CRYSTAL
X201	1-760-509-21	VIBRATOR, CRYSTAL
X202	1-760-180-11	VIBRATOR, CRYSTAL
X203	1-579-977-21	VIBRATOR, CRYSTAL

****

* A-1632-585-A A BOARD, COMPLETE
****

4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C1001	1-162-114-00	CERAMIC	0.0047MF		2KV
C1002	1-107-637-11	ELECT	22MF	20%	160V
C1003	1-162-116-00	CERAMIC	680PF	10%	2KV
C1004	1-107-368-11	FILM	0.047MF	10%	200V
C1005	1-136-076-00	FILM	0.0085MF	3%	2KV
C1006	1-137-391-11	FILM	0.0047MF	5%	100V
C1007	1-126-959-11	ELECT	0.47MF	20%	50V
C1008	1-102-973-00	CERAMIC	100PF	5%	50V
C1009	1-136-598-11	FILM	3MF	5%	200V
C1010	1-102-030-00	CERAMIC	330PF	10%	500V
C1011	1-137-372-11	FILM	0.022MF	5%	50V
C1012	1-136-105-00	FILM	0.33MF	5%	200V
C1013	1-126-960-11	ELECT	1MF	20%	50V
C1014	1-107-368-11	FILM	0.047MF	10%	200V
C1015	1-136-756-11	FILM	0.24MF	5%	200V
C1016	1-107-638-11	ELECT	33MF	20%	160V
C1017	1-126-967-11	ELECT	47MF	20%	16V
C1018	1-126-967-11	ELECT	47MF	20%	16V
C1019	1-123-024-21	ELECT	33MF		160V
C1020	1-136-165-00	FILM	0.1MF	5%	50V
C1021	1-137-370-11	FILM	0.01MF	5%	50V
C1023	1-126-967-11	ELECT	47MF	20%	16V
C1025	1-126-967-11	ELECT	47MF	20%	16V
C1026	1-101-002-00	CERAMIC	0.0022MF		50V
C1027	1-136-105-00	FILM	0.33MF	5%	200V
C1033	1-126-967-11	ELECT	47MF	20%	16V
C1034	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C1035	1-126-967-11	ELECT	47MF	20%	16V
C1038	1-126-967-11	ELECT	47MF	20%	16V
C1039	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C1040	1-126-967-11	ELECT	47MF	20%	16V
C1042	1-104-664-11	ELECT	47MF	20%	25V
C1043	1-101-002-00	CERAMIC	0.0022MF		50V
C1044	1-101-002-00	CERAMIC	0.0022MF		50V
C1045	1-126-967-11	ELECT	47MF	20%	16V

A

REF. NO.	PART NO.	DESCRIPTION			REMARK
C1047	1-101-002-00	CERAMIC	0.0022MF		50V
C1048	1-126-967-11	ELECT	47MF	20%	16V
C1049	1-104-664-11	ELECT	47MF	20%	25V
C1050	1-101-002-00	CERAMIC	0.0022MF		50V
C1051	1-104-664-11	ELECT	47MF	20%	25V
C1052	1-126-967-11	ELECT	47MF	20%	16V
C1053	1-101-004-00	CERAMIC	0.01MF		50V
C1054	1-126-967-11	ELECT	47MF	20%	50V
C1055	1-126-964-11	ELECT	10MF	20%	50V
C1056	1-128-551-11	ELECT	22MF	20%	25V
C1057	1-102-114-00	CERAMIC	470PF	10%	50V
C1058	1-126-967-11	ELECT	47MF	20%	50V
C1059	1-126-967-11	ELECT	47MF	20%	50V
C1060	1-102-114-00	CERAMIC	470PF	10%	50V
C1061	1-126-967-11	ELECT	47MF	20%	16V
C1064	1-126-967-11	ELECT	47MF	20%	16V
C1065	1-102-114-00	CERAMIC	470PF	10%	50V
C1066	1-102-114-00	CERAMIC	470PF	10%	50V
C1067	1-126-967-11	ELECT	47MF	20%	16V
C1068	1-102-114-00	CERAMIC	470PF	10%	50V
C1069	1-126-967-11	ELECT	47MF	20%	16V
C1070	1-126-965-11	ELECT	22MF	20%	50V
C1071	1-102-114-00	CERAMIC	470PF	10%	50V
C1072	1-126-967-11	ELECT	47MF	20%	16V
C1073	1-102-114-00	CERAMIC	470PF	10%	50V
C1074	1-126-967-11	ELECT	47MF	20%	16V
C1075	1-126-967-11	ELECT	47MF	20%	16V
C1076	1-102-114-00	CERAMIC	470PF	10%	50V
C1077	1-126-964-11	ELECT	10MF	20%	50V
C1078	1-101-004-00	CERAMIC	0.01MF		50V
C1079	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C1080	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1081	1-126-933-11	ELECT	100MF	20%	16V
C1082	1-126-933-11	ELECT	100MF	20%	16V
C1090	1-162-116-00	CERAMIC	680PF	10%	2KV
C1091	1-137-380-11	FILM	0.47MF	5%	50V
C3201	1-126-964-11	ELECT	10MF	20%	50V
C3202	1-126-964-11	ELECT	10MF	20%	50V
C3204	1-126-967-11	ELECT	47MF	20%	16V
C3205	1-126-301-11	ELECT	1MF	20%	50V
C3206	1-126-967-11	ELECT	47MF	20%	16V
C3207	1-128-550-11	ELECT	2200MF	20%	50V
C3208	1-128-550-11	ELECT	2200MF	20%	50V
C3209	1-136-165-00	FILM	0.1MF	5%	50V
C3210	1-136-165-00	FILM	0.1MF	5%	50V
C3211	1-136-165-00	FILM	0.1MF	5%	50V
C3212	1-136-165-00	FILM	0.1MF	5%	50V
C3213	1-107-715-11	ELECT	22MF	20%	50V
C3214	1-126-969-11	ELECT	220MF	20%	50V
C3215	1-126-965-11	ELECT	22MF	20%	50V
C3216	1-126-961-11	ELECT	2.2MF	20%	50V

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN1001	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	
CN1002	*1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P	
CN1003	*1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P	
CN1004	*1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P	
CN1005	1-695-915-11	TAB (CONTACT)	
CN1006	*1-564-509-11	PLUG, CONNECTOR 6P	
CN1007	1-695-915-11	TAB (CONTACT)	
CN1008	*1-508-765-00	PIN, CONNECTOR (5mm PITCH) 3P	
CN1009	*1-508-768-00	PIN, CONNECTOR (5mm PITCH) 6P	
CN1010	*1-564-509-11	PLUG, CONNECTOR 6P	
CN1011	*1-564-509-11	PLUG, CONNECTOR 6P	
CN1012	*1-564-506-11	PLUG, CONNECTOR 3P	
CN1013	*1-564-515-11	PLUG, CONNECTOR 12P	
CN1016	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
CN3201	*1-564-510-11	PLUG, CONNECTOR 7P	
CN3202	*1-508-766-00	PIN, CONNECTOR (5mm PITCH) 4P	
CN3203	*1-564-507-11	PLUG, CONNECTOR 4P	

<DIODE>

REF. NO.	PART NO.	DESCRIPTION	REMARK
D1001	8-719-018-82	DIODE RGP02-20EL-6394	
D1002	8-719-300-80	DIODE RU-1C	
D1004	8-719-911-19	DIODE 1SS119-25	
D1005	8-719-911-19	DIODE 1SS119-25	
D1006	8-719-911-19	DIODE 1SS119-25	
D1007	8-719-911-19	DIODE 1SS119-25	
D1008	8-719-911-19	DIODE 1SS119-25	
D1009	8-719-911-19	DIODE 1SS119-25	
D1012	8-719-150-92	DIODE RD33EB3T	
D1013	8-719-911-19	DIODE 1SS119-25	
D1014	8-719-911-19	DIODE 1SS119-25	
D1015	8-719-911-19	DIODE 1SS119-25	
D1016	8-719-911-19	DIODE 1SS119-25	
D1017	8-719-510-48	DIODE D1N20R	
D1018	8-719-510-48	DIODE D1N20R	
D3201	8-719-914-44	DIODE DAP202K	
D3202	8-719-914-43	DIODE DAN202K	
D3203	8-719-911-19	DIODE 1SS119-25	
D3204	8-719-914-43	DIODE DAN202K	
D3206	8-719-914-43	DIODE DAN202K	
D3207	8-719-914-43	DIODE DAN202K	
D3209	8-719-914-43	DIODE DAN202K	
D3210	8-719-911-19	DIODE 1SS119-25	
D3211	8-719-988-72	DIODE SC802-06	
D3212	8-719-911-19	DIODE 1SS119-25	

<IC>

REF. NO.	PART NO.	DESCRIPTION	REMARK
IC1001	8-759-457-44	IC KA78R05TU	
IC1002	8-759-457-44	IC KA78R05TU	
IC1003	8-759-189-48	IC PQ12RE11	
IC1004	8-759-095-63	IC PQ09RF2	
IC1005	8-759-701-88	IC NJM7912FA	
IC1006	8-759-991-41	IC LM78L05ACZ	
IC3201	8-759-190-89	IC TDA7265	

<IF BLOCK>

REF. NO.	PART NO.	DESCRIPTION	REMARK
IF1002	1-466-677-11	IF BLOCK (IFF-380)	
IF1003	1-466-138-11	IF BLOCK (IFD-380A)	

<COIL>

REF. NO.	PART NO.	DESCRIPTION	REMARK
L1001	1-411-189-11	COIL, CHOKE 15mH	
L1002	1-459-769-13	COIL, HORIZONTAL LINEARITY	
L1003	1-408-417-00	INDUCTOR 47UH	
L1005	1-408-421-00	INDUCTOR 100UH	
L1006	1-412-533-21	INDUCTOR 47UH	
L1007	1-408-417-00	INDUCTOR 47UH	
L1008	1-408-417-00	INDUCTOR 47UH	
L1009	1-408-417-00	INDUCTOR 47UH	
L1010	1-412-533-21	INDUCTOR 47UH	
L1012	1-408-417-00	INDUCTOR 47UH	
L1013	1-408-417-00	INDUCTOR 47UH	

<TRANSISTOR>

REF. NO.	PART NO.	DESCRIPTION	REMARK
Q1001	8-729-021-48	TRANSISTOR 2SD2348LBSONY	
Q1002	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q1003	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1004	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1005	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1006	8-729-201-32	TRANSISTOR 2SA1013-O	
Q1007	8-729-201-32	TRANSISTOR 2SA1013-O	

REF. NO.	PART NO.	DESCRIPTION	REMARK
Q1008	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1009	8-729-010-98	TRANSISTOR 2SA1492M-OPY	
Q1010	8-729-304-92	TRANSISTOR 2SB649A-C	
Q1011	8-729-029-56	TRANSISTOR DTA144ESA	
Q1012	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1013	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1014	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1015	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1016	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1017	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1024	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1025	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1026	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3204	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3205	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3206	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3207	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3208	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3209	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3210	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION			REMARK	
R1001	1-215-865-11	METAL OXIDE	220	5%	1W	F
R1002	1-247-735-11	SOLID	47	20%	1/2W	
R1003	1-216-478-11	METAL OXIDE	390	5%	3W	F
R1004	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R1005	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R1006	1-216-373-11	METAL OXIDE	2.2	5%	2W	F
R1007	1-249-437-11	CARBON	47K	5%	1/4W	
R1009	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R1010	1-249-417-11	CARBON	1K	5%	1/4W	
R1011	1-247-843-11	CARBON	3.3K	5%	1/4W	
R1012	1-249-417-11	CARBON	1K	5%	1/4W	
R1015	1-215-429-00	METAL	2.2K	1%	1/4W	
R1016	1-215-433-00	METAL	3.3K	1%	1/4W	
R1017	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1018	1-247-895-00	CARBON	470K	5%	1/4W	
R1019	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1020	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1021	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R1022	1-215-443-00	METAL	8.2K	1%	1/4W	
R1023	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1024	1-249-417-11	CARBON	1K	5%	1/4W	
R1025	1-215-425-00	METAL	1.5K	1%	1/4W	
R1026	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R1027	1-215-437-00	METAL	4.7K	1%	1/4W	
R1028	1-249-417-11	CARBON	1K	5%	1/4W	
R1029	1-249-429-11	CARBON	10K	5%	1/4W	
R1030	1-249-417-11	CARBON	1K	5%	1/4W	F
R1031	1-215-877-11	METAL OXIDE	22K	5%	1W	F
R1032	1-249-430-11	CARBON	12K	5%	1/4W	F
R1033	1-249-437-11	CARBON	47K	5%	1/4W	
R1034	1-247-807-31	CARBON	100	5%	1/4W	
R1035	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1036	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1037	1-249-429-11	CARBON	10K	5%	1/4W	
R1038	1-249-429-11	CARBON	10K	5%	1/4W	
R1039	1-247-843-11	CARBON	3.3K	5%	1/4W	
R1040	1-249-437-11	CARBON	47K	5%	1/4W	
R1041	1-249-417-11	CARBON	1K	5%	1/4W	
R1042	1-249-429-11	CARBON	10K	5%	1/4W	
R1043	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1044	1-247-807-31	CARBON	100	5%	1/4W	
R1045	1-249-417-11	CARBON	1K	5%	1/4W	
R1046	1-247-807-31	CARBON	100	5%	1/4W	
R1047	1-249-429-11	CARBON	10K	5%	1/4W	
R1048	1-247-807-31	CARBON	100	5%	1/4W	
R1049	1-249-429-11	CARBON	10K	5%	1/4W	
R1052	1-249-417-11	CARBON	1K	5%	1/4W	
R1064	1-216-389-11	METAL OXIDE	1	5%	3W	F
R1075	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1084	1-215-901-00	METAL OXIDE	33K	5%	2W	F
R1086	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1087	1-249-428-11	CARBON	8.2K	5%	1/4W	
R1088	1-249-432-11	CARBON	18K	5%	1/4W	
R1089	1-249-433-11	CARBON	22K	5%	1/4W	
R1093	1-249-409-11	CARBON	220	5%	1/4W	
R1094	1-249-409-11	CARBON	220	5%	1/4W	
R1095	1-249-409-11	CARBON	220	5%	1/4W	
R1096	1-249-409-11	CARBON	220	5%	1/4W	
R1097	1-249-433-11	CARBON	22K	5%	1/4W	
R1098	1-247-881-00	CARBON	120K	5%	1/4W	
R1099	1-249-441-11	CARBON	100K	5%	1/4W	
R1100	1-249-429-11	CARBON	10K	5%	1/4W	
R1101	1-249-437-11	CARBON	47K	5%	1/4W	
R1102	1-249-422-11	CARBON	2.7K	5%	1/4W	
R1103	1-249-429-11	CARBON	10K	5%	1/4W	
R1104	1-249-437-11	CARBON	47K	5%	1/4W	
R1105	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1106	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1107	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1108	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1109	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3201	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3202	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3203	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3204	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3205	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3206	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3207	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3208	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R3209	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3210	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R3211	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3212	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R3213	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R3214	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R3215	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R3216	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3217	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3218	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3219	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R3220	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R3221	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3222	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3223	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R3224	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3225	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3226	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3227	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3228	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3229	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3230	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3231	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3232	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R3233	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R3234	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R3235	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3236	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3237	1-249-421-11	CARBON	2.2K	5%	1/4W	

<RELAY>

REF. NO.	PART NO.	DESCRIPTION	REMARK
RY3201	1-515-833-11	RELAY	

A **G**

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The componants identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<TRANSFORMER>			
T1001	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE			
		<TEST PIN>			
TP1001	1-535-570-11	PIN, TERMINAL			
TP1002	1-535-570-11	PIN, TERMINAL			
		<TUNER>			
TU1002	8-598-270-00	TUNER, ET BTP-RG421			
TU1003	8-598-270-00	TUNER, ET BTP-RG421			

****

REF. NO.	PART NO.	DESCRIPTION			REMARK
	* A-1637-007-A	G BOARD, COMPLETE **********************			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	7-322-065-19	RUBBER, SILICON RTV (KE490W)			
		<CAPACITOR>			
C6001	⚠ 1-113-890-51	CERAMIC	0.0022MF	20%	250V
C6002	1-104-708-11	FILM	0.47MF	20%	250V
C6003	1-126-944-11	ELECT	3300MF	20%	25V
C6004	1-104-665-11	ELECT	100MF	20%	25V
C6006	1-104-706-11	FILM	0.22MF	20%	250V
C6007	⚠ 1-113-890-51	CERAMIC	0.0022MF	20%	250V
C6008	1-104-706-11	FILM	0.22MF	20%	250V
C6009	1-102-114-00	CERAMIC	470PF	10%	50V
C6010	1-102-112-00	CERAMIC	330PF	10%	50V
C6011	1-107-678-91	ELECT	4.7MF	20%	450V
C6012	1-102-112-00	CERAMIC	330PF	10%	50V
C6013	1-137-479-11	FILM	1MF	10%	400V
C6014	1-126-968-11	ELECT	100MF	20%	50V
C6016	1-126-964-11	ELECT	10MF	20%	50V
C6017	1-164-346-11	CERAMIC CHIP	1MF		16V
C6018	1-117-195-11	ELECT	820MF	20%	400V
C6019	1-104-664-11	ELECT	47MF	20%	25V
C6020	1-104-665-11	ELECT	100MF	20%	25V
C6021	1-126-961-11	ELECT	2.2MF	20%	50V
C6022	1-137-370-11	FILM	0.01MF	5%	50V
C6023	1-102-112-00	CERAMIC	330PF	10%	50V
C6024	1-126-960-11	ELECT	1MF	20%	50V
C6025	1-136-165-00	FILM	0.1MF	5%	50V
C6026	1-104-665-11	ELECT	100MF	20%	25V
C6027	1-104-665-11	ELECT	100MF	20%	25V
C6028	1-164-625-11	CERAMIC	680PF	10%	500V
C6029	1-164-625-11	CERAMIC	680PF	10%	500V
C6030	1-115-405-11	FILM	0.039MF	3%	1KV
C6031	1-126-964-11	ELECT	10MF	20%	50V
C6032	1-126-964-11	ELECT	10MF	20%	50V
C6033	1-130-471-00	FILM	0.001MF	2%	50V
C6034	1-101-810-00	CERAMIC	100PF	5%	500V
C6035	1-101-810-00	CERAMIC	100PF	5%	500V
C6036	1-126-768-11	ELECT	2200MF	20%	16V
C6037	1-126-943-11	ELECT	2200MF	20%	25V
C6038	1-126-946-11	ELECT	6800MF	20%	25V
C6039	1-126-972-11	ELECT	1000MF	20%	50V
C6040	1-126-972-11	ELECT	1000MF	20%	50V
C6041	1-126-960-11	ELECT	1MF	20%	50V
C6042	1-104-665-11	ELECT	100MF	20%	25V
C6043	1-107-639-11	ELECT	47MF	20%	160V
C6044	1-107-641-11	ELECT	220MF	20%	160V
C6045	1-104-665-11	ELECT	100MF	20%	25V
C6046	1-104-665-11	ELECT	100MF	20%	25V
C6047	1-102-112-00	CERAMIC	330PF	10%	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C6048	1-126-960-11	ELECT	1MF	20%	50V
C6049	1-136-165-00	FILM	0.1MF	5%	50V
C6050	1-109-954-11	ELECT	0.47MF	20%	160V
C6051	1-126-935-11	ELECT	470MF	20%	6.3V
C6052	1-164-625-11	CERAMIC	680PF	10%	500V
C6053	1-164-625-11	CERAMIC	680PF	10%	500V
C6054	1-107-639-11	ELECT	47MF	20%	160V
C6055	1-107-641-11	ELECT	220MF	20%	160V
C6056	1-137-370-11	FILM	0.01MF	5%	50V
C6057	1-102-030-00	CERAMIC	330PF	10%	500V
C6058	1-102-114-00	CERAMIC	470PF	10%	50V
C6059	1-102-114-00	CERAMIC	470PF	10%	50V
C6060	1-102-114-00	CERAMIC	470PF	10%	50V
C6061	1-102-114-00	CERAMIC	470PF	10%	50V
C6064	1-162-599-12	CERAMIC	0.0047MF		250V
C6065	1-162-599-12	CERAMIC	0.0047MF		250V
		<CONNECTOR>			
CN6002	1-695-915-11	TAB (CONTACT)			
CN6003	1-695-915-11	TAB (CONTACT)			
CN6005	* 1-580-843-11	PIN, CONNECTOR (POWER)			
CN6006	* 1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P			
CN6007	* 1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P			
CN6008	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN6009	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN6010	* 1-508-768-00	PIN, CONNECTOR (5mm PITCH) 6P			
CN6011	* 1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P			
CN6012	* 1-508-766-00	PIN, CONNECTOR (5mm PITCH) 4P			
CN6013	* 1-508-765-00	PIN, CONNECTOR (5mm PITCH) 3P			
		<DIODE>			
D6001	8-719-979-58	DIODE EGP10D			
D6002	8-719-979-58	DIODE EGP10D			
D6003	8-719-022-99	DIODE D6SB60L			
D6005	8-719-110-36	DIODE RD13ESB2			
D6006	8-719-911-19	DIODE 1SS119-25			
D6007	8-719-911-55	DIODE U05G			
D6008	8-719-979-64	DIODE UF4005PKG23			
D6009	8-719-059-23	DIODE P6KE200AG23			
D6010	8-719-028-72	DIODE RGP02-17EL-6433			
D6011	8-719-150-92	DIODE RD33EB3T			
D6012	8-719-911-19	DIODE 1SS119-25			
D6013	8-719-110-12	DIODE RD9.1ESB1			
D6014	8-719-911-19	DIODE 1SS119-25			
D6015	8-719-911-19	DIODE 1SS119-25			
D6016	8-719-911-19	DIODE 1SS119-25			
D6017	8-719-510-64	DIODE S2LA20F			
D6018	8-719-911-19	DIODE 1SS119-25			
D6019	8-719-911-19	DIODE 1SS119-25			
D6020	8-719-911-19	DIODE 1SS119-25			
D6021	8-719-979-64	DIODE UF4005PKG23			
D6022	8-719-110-52	DIODE RD20ESB1			
D6023	8-719-979-64	DIODE UF4005PKG23			
D6024	8-719-110-52	DIODE RD20ESB1			
D6025	8-719-510-64	DIODE S2LA20F			
D6026	8-719-110-52	DIODE RD20ESB1			
D6027	8-719-110-52	DIODE RD20ESB1			
D6032	8-719-911-19	DIODE 1SS119-25			
D6033	8-719-911-19	DIODE 1SS119-25			
D6035	8-719-018-83	DIODE D2S4M			
D6036	8-719-018-83	DIODE D2S4M			
D6037	8-719-031-78	DIODE S2L40F			
D6038	8-719-312-47	DIODE RBA-406B			
D6039	8-719-510-12	DIODE D10SC4M			
D6040	8-719-027-20	DIODE D3S4M-F			
D6041	8-719-027-20	DIODE D3S4M-F			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF. NO.	PART NO.	DESCRIPTION	REMARK
D6042	8-719-979-64	DIODE UF4005PKG23	
D6043	8-719-110-52	DIODE RD20ESB1	
D6044	8-719-979-64	DIODE UF4005PKG23	
D6045	8-719-110-52	DIODE RD20ESB1	
D6046	8-719-110-52	DIODE RD20ESB1	
D6047	8-719-110-52	DIODE RD20ESB1	
D6048	⚠ 8-719-947-57	DIODE MTZJ-T-72-13B	
D6049	8-719-031-78	DIODE S2L40F	
D6050	8-719-911-19	DIODE 1SS119-25	
D6051	8-719-911-19	DIODE 1SS119-25	
D6052	8-719-027-20	DIODE D3S4M-F	
D6053	8-719-027-20	DIODE D3S4M-F	
		<FUSE>	
F6001	⚠ 1-576-232-11	FUSE (H.B.C.) 5A/250V	
	* 1-533-725-11	HOLDER, FUSE ; F6001	
		<FERRITE BEAD>	
FB6008	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB6009	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
		<IC>	
IC6001	8-759-426-45	IC PWR-TOP210PFI	
IC6002	8-759-103-93	IC uPC393C	
IC6003	8-759-185-47	IC IR2112	
IC6004	8-759-077-25	IC IR3M02A	
IC6005	⚠ 8-749-010-65	PHOTO COUPLER PC123FY2	
IC6006	⚠ 8-749-010-65	PHOTO COUPLER PC123FY2	
IC6007	8-759-185-47	IC IR2112	
IC6008	⚠ 8-749-923-26	IC SE-135N-LF12	
		<COIL>	
L6001	1-412-533-21	INDUCTOR 47UH	
L6002	1-412-525-31	INDUCTOR 10UH	
L6003	1-412-525-31	INDUCTOR 10UH	
L6004	1-412-525-31	INDUCTOR 10UH	
L6005	1-412-525-31	INDUCTOR 10UH	
L6006	1-406-659-11	COIL, CHOKE 10UH	
L6007	1-412-533-21	INDUCTOR 47UH	
L6008	1-412-533-21	INDUCTOR 47UH	
L6009	1-412-522-41	INDUCTOR 5.6UH	
L6010	1-412-522-41	INDUCTOR 5.6UH	
L6011	1-412-525-31	INDUCTOR 10UH	
L6012	1-406-971-21	COIL, CHOKE 10UH	
		<TRANSISTOR>	
Q6001	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q6002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q6003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q6004	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6005	8-729-216-22	TRANSISTOR 2SA1162-G	
Q6006	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q6007	8-729-028-10	TRANSISTOR IRFI744G-LF	
Q6008	8-729-028-10	TRANSISTOR IRFI744G-LF	
Q6009	8-729-140-97	TRANSISTOR 2SB734-34	
Q6010	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6011	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6012	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q6013	8-729-820-82	TRANSISTOR 2SA1208-T	
Q6014	8-729-028-10	TRANSISTOR IRFI744G-LF	
Q6015	8-729-028-10	TRANSISTOR IRFI744G-LF	

REF. NO.	PART NO.	DESCRIPTION				REMARK
		<RESISTOR>				
R6000	1-202-719-00	SOLID	1M	20%	1/2W	
R6001	1-249-417-11	CARBON	1K	5%	1/4W	
R6002	⚠ 1-218-265-91	METAL	8.2M	5%	1W	
R6003	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R6004	1-215-486-00	METAL	510K	1%	1/4W	
R6005	1-215-486-00	METAL	510K	1%	1/4W	
R6008	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R6009	1-247-889-00	CARBON	270K	5%	1/4W	
R6010	1-247-889-00	CARBON	270K	5%	1/4W	
R6011	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R6012	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R6013	1-202-962-11	WIREWOUND	3.3	5%	10W	
R6014	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R6015	1-247-895-00	CARBON	470K	5%	1/4W	
R6016	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R6018	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R6019	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R6020	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R6021	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R6022	1-249-397-11	CARBON	22	5%	1/4W	
R6023	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R6025	1-249-402-11	CARBON	56	5%	1/4W	
R6027	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R6028	1-249-437-11	CARBON	47K	5%	1/4W	
R6029	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R6030	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R6031	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R6032	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R6033	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R6034	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R6035	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R6036	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R6037	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R6038	1-216-295-91	CONDUCTOR, CHIP				
R6039	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R6040	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R6041	1-249-397-11	CARBON	22	5%	1/4W	F
R6042	1-249-397-11	CARBON	22	5%	1/4W	F
R6043	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R6044	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R6045	1-216-660-11	METAL CHIP	2.4K	0.50%	1/10W	
R6046	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R6047	1-249-437-11	CARBON	47K	5%	1/4W	
R6048	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R6049	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R6050	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R6051	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	
R6052	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R6053	1-249-417-11	CARBON	1K	5%	1/4W	
R6054	1-249-417-11	CARBON	1K	5%	1/4W	
R6055	1-249-422-11	CARBON	2.7K	5%	1/4W	
R6056	1-249-427-11	CARBON	6.8K	5%	1/4W	
R6057	1-249-429-11	CARBON	10K	5%	1/4W	
R6058	1-249-429-11	CARBON	10K	5%	1/4W	
R6059	1-247-843-11	CARBON	3.3K	5%	1/4W	
R6060	1-249-405-11	CARBON	100	5%	1/4W	F
R6061	1-215-473-00	METAL	150K	1%	1/4W	
R6062	1-249-417-11	CARBON	1K	5%	1/4W	F
R6063	1-249-397-11	CARBON	22	5%	1/4W	F
R6064	1-249-397-11	CARBON	22	5%	1/4W	F
R6065	1-249-441-11	CARBON	100K	5%	1/4W	
R6066	1-216-366-00	METAL OXIDE	0.56	5%	2W	F
R6067	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R6068	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R6069	1-215-473-00	METAL	150K	1%	1/4W	
R6070	1-249-417-11	CARBON	1K	5%	1/4W	F
R6071	⚠ 1-215-449-00	METAL	15K	1%	1/4W	

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The componants identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

G **E**

REF. NO.	PART NO.	DESCRIPTION			REMARK	
R6072	⚠ 1-215-473-81	METAL	150K	1%	1/4W	
R6073	1-247-823-81	CARBON	470	5%	1/4W	
R6075	1-216-422-21	METAL OXIDE	18	5%	1W	F
R6076	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6077	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6078	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6081	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6082	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6083	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6084	1-249-377-11	CARBON	0.47	5%	1/4W	F
R6085	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R6086	1-249-429-11	CARBON	10K	5%	1/4W	

<RELAY>

RY6003	1-515-999-11	RELAY, POWER

<TRANSFORMER>

T6002	⚠ 1-431-207-11	TRANSFORMER, LINE FILTER
T6004	⚠ 1-429-808-21	TRANSFORMER, CONVERTER
T6005	⚠ 1-429-807-11	TRANSFORMER, CONVERTER (PIT)

****

* A-1642-192-A E BOARD, COMPLETE
****

4-382-854-11	SCREW (M3X10), P, SW (+)
7-322-065-19	RUBBER, SILICON RTV (KE490W)

<CAPACITOR>

REF. NO.	PART NO.	DESCRIPTION			REMARK
C801	1-110-626-11	ELECT	330MF	20%	160V
C802	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C803	1-110-626-11	ELECT	330MF	20%	160V
C804	1-137-364-11	FILM	0.001MF	5%	50V
C805	1-136-173-00	FILM	0.47MF	5%	50V
C806	1-102-030-00	CERAMIC	330PF	10%	500V
C807	1-106-363-00	MYLAR	0.0068MF		200V
C808	1-107-636-11	ELECT	10MF	20%	160V
C809	1-126-967-11	ELECT	47MF	20%	50V
C810	1-130-481-00	FILM	0.0068MF	5%	50V
C811	1-137-475-11	FILM	2.2MF	10%	250V
C812	1-126-965-11	ELECT	22MF	20%	50V
C813	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C814	1-126-968-11	ELECT	100MF	20%	50V
C815	1-162-114-00	CERAMIC	0.0047MF		2KV
C816	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C817	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C818	⚠ 1-109-833-11	FILM	0.0145MF	3%	2.5KV
C819	1-137-420-11	FILM	0.047MF	10%	100V
C820	1-126-959-11	ELECT	0.47MF	20%	50V
C821	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C823	1-136-601-11	FILM	0.01MF	5%	630V
C824	1-126-964-11	ELECT	10MF	20%	50V
C825	1-162-318-11	CERAMIC	0.001MF	10%	500V
C826	1-130-467-00	FILM	470PF	5%	50V
C828	1-111-036-11	ELECT	470MF	20%	16V
C830	1-137-420-11	FILM	0.047MF	10%	100V
C831	1-126-934-11	ELECT	220MF	20%	16V
C832	1-126-967-11	ELECT	47MF	20%	50V
C901	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C902	1-137-370-11	FILM	0.01MF	5%	50V
C903	1-137-431-11	FILM	560PF	5%	50V
C904	1-137-358-11	FILM	0.0001MF	5%	50V
C905	1-104-665-11	ELECT	100MF	20%	25V
C906	1-137-370-11	FILM	0.01MF	5%	50V
C907	1-104-665-11	ELECT	100MF	20%	25V
C908	1-137-361-11	FILM	330PF	5%	50V
C909	1-126-960-11	ELECT	1MF	20%	50V
C911	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C912	1-126-960-11	ELECT	1MF	20%	50V
C913	1-126-960-11	ELECT	1MF	20%	50V
C915	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C916	1-126-963-11	ELECT	4.7MF	20%	50V
C917	1-126-964-11	ELECT	10MF	20%	50V
C918	1-137-364-11	FILM	0.001MF	5%	50V
C920	1-126-959-11	ELECT	0.47MF	20%	50V
C921	1-126-964-11	ELECT	10MF	20%	50V
C922	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C923	1-126-964-11	ELECT	10MF	20%	50V
C924	1-126-933-11	ELECT	100MF	20%	16V
C925	1-137-372-11	FILM	0.022MF	5%	50V
C926	1-126-942-61	ELECT	1000MF	20%	25V
C927	1-137-364-11	FILM	0.001MF	5%	50V
C928	1-126-940-11	ELECT	330MF	20%	25V
C929	1-137-416-11	FILM	0.01MF	10%	100V
C930	1-137-364-11	FILM	0.001MF	5%	50V
C931	1-126-967-11	ELECT	47MF	20%	50V
C932	1-126-960-11	ELECT	1MF	20%	50V
C934	1-137-399-11	FILM	0.1MF	5%	50V
C935	1-137-399-11	FILM	0.1MF	10%	100V
C936	1-126-964-11	ELECT	10MF	20%	50V
C937	1-126-964-11	ELECT	10MF	20%	50V
C938	1-126-933-11	ELECT	100MF	20%	16V
C939	1-126-964-11	ELECT	10MF	20%	50V
C940	1-104-664-11	ELECT	47MF	20%	25V
C941	1-126-964-11	ELECT	10MF	20%	50V
C942	1-104-664-11	ELECT	47MF	20%	25V
C943	1-126-965-11	ELECT	22MF	20%	50V
C944	1-126-964-11	ELECT	10MF	20%	50V
C945	1-126-964-11	ELECT	10MF	20%	50V
C946	1-126-961-11	ELECT	2.2MF	20%	50V
C947	1-126-942-61	ELECT	1000MF	20%	25V
C948	1-104-666-11	ELECT	220MF	20%	25V
C949	1-126-964-11	ELECT	10MF	20%	50V
C950	1-126-964-11	ELECT	10MF	20%	50V
C951	1-109-889-11	ELECT	1MF	20%	50V
C952	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C955	1-126-964-11	ELECT	10MF	20%	50V
C956	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C957	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C958	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C959	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C980	1-137-368-11	FILM	0.0047MF	5%	50V

<CHIP CONDUCTOR>

CJ901	1-216-295-00	CONDUCTOR, CHIP
CJ902	1-216-295-00	CONDUCTOR, CHIP
CJ903	1-216-295-00	CONDUCTOR, CHIP
CJ904	1-216-295-00	CONDUCTOR, CHIP

<CONNECTOR>

CN802	* 1-564-510-11	PLUG, CONNECTOR 7P
CN827	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P
CN851	* 1-564-509-11	PLUG, CONNECTOR 6P
CN881	* 1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P
CN882	* 1-691-135-11	PIN, CONNECTOR (PC BOARD) 4P
CN884	* 1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P
CN885	* 1-506-371-00	PIN, CONNECTOR 2P
CN886	* 1-506-371-00	PIN, CONNECTOR 2P
CN904	* 1-564-507-11	PLUG, CONNECTOR 4P

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>	
D801	8-719-109-85	DIODE RD5.1ESB2	
D802	8-719-404-49	DIODE MA111	
D803	8-719-971-20	DIODE ERC38-06	
D804	8-719-908-03	DIODE GP08D	
D805	⚠8-719-979-40	DIODE ERC06-15STP11	
D806	8-719-911-19	DIODE 1SS119-25	
D807	⚠8-719-979-40	DIODE ERC06-15STP11	
D808	8-719-500-71	DIODE D8LC40	
D809	8-719-911-19	DIODE 1SS119-25	
D810	8-719-945-80	DIODE ERC06-15S	
D812	8-719-404-49	DIODE MA111	
D814	8-719-920-67	DIODE ERC91-02	
D816	8-719-404-49	DIODE MA111	
D817	8-719-404-49	DIODE MA111	
D818	8-719-404-49	DIODE MA111	
D819	8-719-105-82	DIODE RD5.1M-B2	
D901	8-719-404-49	DIODE MA111	
D904	8-719-404-49	DIODE MA111	
D905	8-719-404-49	DIODE MA111	
D907	8-719-404-49	DIODE MA111	
D908	8-719-105-82	DIODE RD5.1M-B2	
D909	8-719-302-43	DIODE EL1Z	
D910	8-719-911-19	DIODE 1SS119-25	
D911	8-719-105-82	DIODE RD5.1M-B2	
D912	8-719-105-82	DIODE RD5.1M-B2	
D913	8-719-404-49	DIODE MA111	
D914	8-719-404-49	DIODE MA111	
D915	8-719-404-49	DIODE MA111	
D916	8-719-105-57	DIODE RD3.9M-B1	
D917	8-719-404-49	DIODE MA111	
D918	8-719-404-49	DIODE MA111	
D919	8-719-106-81	DIODE RD13M-B3	
D920	8-759-157-40	IC uPC574J	
D921	8-719-106-81	DIODE RD13M-B3	
D924	8-719-404-49	DIODE MA111	
D926	8-719-404-49	DIODE MA111	
D927	8-719-049-61	DIODE MA3043-M-(TX)	
D929	8-719-402-19	DIODE MA3100H-TX	
		<FERRITE BEAD>	
FB002	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
		<IC>	
IC901	8-759-133-90	IC uPC339C	
IC902	8-759-133-90	IC uPC339C	
IC903	8-759-711-28	IC NJM2058D	
IC904	8-759-634-51	IC M5218AP	
IC905	8-759-929-65	IC LM7912CT	
IC906	8-759-231-58	IC TA7812S	
		<COIL>	
L801	1-406-665-11	COIL, CHOKE 100UH	
L802	1-406-665-11	COIL, CHOKE 100UH	
L803	1-422-613-11	COIL, AIR CORE	
L804	1-411-286-11	COIL, CHOKE 220UH	
L901	1-408-416-00	INDUCTOR 39UH	
L902	1-408-416-00	INDUCTOR 39UH	
		<NEON LAMP>	
NL802	1-519-108-99	LAMP, NEON	

REF. NO.	PART NO.	DESCRIPTION	REMARK
		<TRANSISTOR>	
Q801	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q802	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q803	8-729-122-12	TRANSISTOR 2SA1221-L	
Q806	⚠8-729-805-07	TRANSISTOR 2SD1887-CA	
Q807	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q808	8-729-024-30	TRANSISTOR IRFI640LF	
Q809	8-729-823-81	TRANSISTOR 2SC4632LS-CB7	
Q810	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q811	8-729-823-81	TRANSISTOR 2SC4632LS-CB7	
Q813	8-729-216-22	TRANSISTOR 2SA1162-G	
Q901	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q902	8-729-140-93	TRANSISTOR 2SB733-34	
Q903	8-729-140-96	TRANSISTOR 2SD774-34	
Q904	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q905	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q906	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q907	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q908	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q909	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q910	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q911	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q912	8-729-216-22	TRANSISTOR 2SA1162-G	
Q914	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q915	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q916	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q917	8-729-027-38	TRANSISTOR DTA144EKA-T146	
		<RESISTOR>	
R800	1-216-637-11	METAL CHIP 270 0.50% 1/10W	
R801	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R802	1-249-421-11	CARBON 2.2K 5% 1/4W	
R804	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R805	1-216-435-11	METAL OXIDE 2.7K 5% 1W	F
R806	1-249-431-11	CARBON 15K 5% 1/4W	F
R807	1-260-325-11	CARBON 560 5% 1/2W	
⧓R808	⚠	CARBON 1/4W	
⧓R809	⚠	CARBON 1/4W	
R810	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R811	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R812	1-216-395-00	METAL OXIDE 3.3 5% 3W	F
R813	1-216-484-00	METAL OXIDE 3.9K 5% 3W	F
R814	1-215-919-11	METAL OXIDE 2.2K 5% 3W	F
R816	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R817	1-216-395-00	METAL OXIDE 3.3 5% 3W	F
R818	1-249-405-11	CARBON 100 5% 1/4W	F
R819	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R820	1-215-905-11	METAL OXIDE 10 5% 3W	F
R821	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R822	1-215-928-11	METAL OXIDE 68K 5% 3W	F
R823	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R825	1-215-928-11	METAL OXIDE 68K 5% 3W	F
R826	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R830	1-215-928-11	METAL OXIDE 68K 5% 3W	F
R831	1-215-919-11	METAL OXIDE 2.2K 5% 3W	F
R832	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R835	1-249-474-11	CARBON 1 5% 1/2W	F
R836	1-202-818-00	SOLID 1K 20% 1/2W	
R837	1-215-870-11	METAL OXIDE 1.5K 5% 1W	F
R838	1-247-807-31	CARBON 100 5% 1/4W	
R839	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R843	1-202-549-00	SOLID 100 20% 1/2W	
R846	1-202-838-00	SOLID 100K 20% 1/2W	
R847	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R849	1-249-433-11	CARBON 22K 5% 1/4W	
R850	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R851	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	

E **D**

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The componants identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK	
R852	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R854	1-249-447-11	CARBON	1	5%	1/4W	F
R855	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R856	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R857	1-218-755-11	METAL CHIP	130K	0.50%	1/10W	
R858	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R859	1-249-381-11	CARBON	1	5%	1/4W	F
R883	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R888	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R901	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R902	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R903	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R904	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R905	1-247-739-11	CARBON	100	5%	1/2W	F
R906	1-247-739-11	CARBON	100	5%	1/2W	F
R907	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R908	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R909	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R910	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R911	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R912	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R913	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R914	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R915	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R916	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R917	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R918	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R919	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R920	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R921	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R922	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R923	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R924	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R926	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R927	1-249-377-11	CARBON	0.47	5%	1/4W	F
R928	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R930	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R931	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R932	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R933	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R934	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R935	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R936	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R937	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R938	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R939	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R940	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R941	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R942	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R943	1-249-377-11	CARBON	0.47	5%	1/4W	F
R944	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R945	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R946	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R947	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R948	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R949	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R950	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R952	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R954	1-214-777-00	METAL	100K	1%	1/4W	
R955	1-214-769-00	METAL	47K	1%	1/4W	
R956	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R957	1-218-754-11	METAL CHIP	120K	0.50%	1/10W	
R958	1-218-756-11	METAL CHIP	150K	0.50%	1/10W	
R959	1-214-757-00	METAL	15K	1%	1/4W	
R960	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R961	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R962	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R963	1-214-749-00	METAL	6.8K	1%	1/4W	

REF. NO.	PART NO.	DESCRIPTION			REMARK	
R964	1-214-757-00	METAL	15K	1%	1/4W	
R965	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R966	1-214-757-00	METAL	15K	1%	1/4W	
R967	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R968	1-214-751-00	METAL	8.2K	1%	1/4W	
R969	1-215-423-00	METAL	1.2K	1%	1/4W	
R970	1-214-757-00	METAL	15K	1%	1/4W	
R971	1-208-845-11	METAL GLAZE	1M	5%	1/10W	
R972	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R973	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R974	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R975	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R976	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R977	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R978	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R979	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R980	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R981	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R982	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
⊠R983	⚠	METAL			1/4W	
R984	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R985	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R986	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R987	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
⊠R988	⚠	METAL			1/4W	
R989	1-216-462-00	METAL OXIDE	8.2K	5%	2W	F
R990	1-215-897-11	METAL OXIDE	6.8K	5%	2W	F
R991	1-216-672-11	METAL CHIP	7.5K	0.50%	1/10W	
R994	1-247-807-31	CARBON	100	5%	1/4W	
R995	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R996	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R997	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R998	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

<SPARK GAP>

SG801	1-519-422-11	GAP, SPARK

<TRANSFORMER>

T801	⚠ 1-453-189-11	TRANSFORMER ASSY, FLYBACK (NX-2631//A4S)
T802	1-437-209-11	TRANSFORMER, HORIZONTAL DRIVE
T803	⚠ 1-427-980-11	TRANSFORMER, FERRITE (LOT)

****

* A-1642-215-A D BOARD, COMPLETE
****

	4-382-854-11	SCREW (M3X10), P, SW (+)
	7-682-952-09	SCREW +PSW 3X16

<CAPACITOR>

C1502	1-126-943-11	ELECT	2200MF	20%	25V
C1503	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1504	1-126-943-11	ELECT	2200MF	20%	25V
C1505	1-136-177-00	FILM	1MF	5%	50V
C1506	1-102-228-00	CERAMIC	470PF	10%	500V
C1507	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1508	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1509	1-126-968-11	ELECT	100MF	20%	50V
C1510	1-137-401-11	FILM	0.22MF	10%	100V
C1511	1-137-423-11	FILM	0.15MF	10%	100V
C1512	1-137-423-11	FILM	0.15MF	10%	100V
C1513	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C1514	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1515	1-163-031-11	CERAMIC CHIP	0.01MF		50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C1516	1-136-177-00	FILM	1MF	5%	50V
C1517	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1518	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1551	1-126-964-11	ELECT	10MF	20%	50V
C1603	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1604	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1605	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1606	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1607	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1608	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1611	1-126-968-11	ELECT	100MF	20%	50V
C1612	1-104-665-11	ELECT	100MF	20%	25V
C1613	1-126-968-11	ELECT	100MF	20%	50V
C1615	1-104-665-11	ELECT	100MF	20%	25V
C1617	1-126-941-11	ELECT	470MF	20%	25V
C1619	1-104-665-11	ELECT	100MF	20%	25V
C1620	1-126-941-11	ELECT	470MF	20%	25V
C1622	1-104-665-11	ELECT	100MF	20%	25V
C1701	1-126-935-11	ELECT	470MF	20%	16V
C1702	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1703	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C1704	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1705	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C1709	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1723	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1724	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1801	1-126-960-11	ELECT	1MF	20%	50V
C1802	1-126-964-11	ELECT	10MF	20%	50V
C1803	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1805	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1806	1-216-295-00	CONDUCTOR, CHIP			
C1807	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1808	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1809	1-104-661-91	ELECT	330MF	20%	16V
C1810	1-104-661-91	ELECT	330MF	20%	16V
C1811	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1812	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1813	1-163-275-11	CERAMIC CHIP	1000PF	5%	50V
C1814	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1816	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1817	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1818	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1819	1-126-933-11	ELECT	100MF	20%	16V
C1820	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1821	1-126-959-11	ELECT	0.47MF	20%	50V
C1822	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1823	1-126-960-11	ELECT	1MF	20%	50V
C1824	1-126-960-11	ELECT	1MF	20%	50V
C1825	1-126-967-11	ELECT	47MF	20%	50V
C1826	1-126-967-11	ELECT	47MF	20%	50V
C1827	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1828	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1829	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1830	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1831	1-104-661-91	ELECT	330MF	20%	16V
C1832	1-104-661-91	ELECT	330MF	20%	16V
C1833	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1834	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1835	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1836	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1837	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C1838	1-126-968-11	ELECT	100MF	20%	50V
C1839	1-126-968-11	ELECT	100MF	20%	50V
C1840	1-126-960-11	ELECT	1MF	20%	50V
C1841	1-126-967-11	ELECT	47MF	20%	50V
C1842	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1843	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1844	1-126-967-11	ELECT	47MF	20%	50V
C1845	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1846	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1847	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1848	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1849	1-126-968-11	ELECT	100MF	20%	50V
C1850	1-126-968-11	ELECT	100MF	20%	50V
C1851	1-137-399-11	FILM	0.1MF	5%	50V
C1852	1-126-968-11	ELECT	100MF	20%	50V
C1853	1-137-378-11	FILM	0.22MF	5%	50V
C1854	1-126-963-11	ELECT	4.7MF	20%	50V
C1855	1-126-960-11	ELECT	1MF	20%	50V
C1856	1-104-665-11	ELECT	100MF	20%	25V
C1857	1-126-968-11	ELECT	100MF	20%	50V
C1858	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1859	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1860	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1861	1-126-968-11	ELECT	100MF	20%	50V
C1862	1-126-960-11	ELECT	1MF	20%	50V
C1863	1-136-173-00	FILM	0.47MF	5%	50V
C1864	1-126-960-11	ELECT	1MF	20%	50V
C1865	1-126-960-11	ELECT	1MF	20%	50V
C1866	1-126-967-11	ELECT	47MF	20%	50V

<CHIP CONDUCTOR>

REF. NO.	PART NO.	DESCRIPTION
CJ1	1-216-295-00	CONDUCTOR, CHIP
CJ2	1-216-295-00	CONDUCTOR, CHIP
CJ3	1-216-295-00	CONDUCTOR, CHIP
CJ4	1-216-295-00	CONDUCTOR, CHIP
CJ5	1-216-295-00	CONDUCTOR, CHIP
CJ6	1-216-295-00	CONDUCTOR, CHIP
CJ7	1-216-295-00	CONDUCTOR, CHIP
CJ8	1-216-295-00	CONDUCTOR, CHIP
CJ9	1-216-295-00	CONDUCTOR, CHIP
CJ10	1-216-295-00	CONDUCTOR, CHIP
CJ11	1-216-295-00	CONDUCTOR, CHIP
CJ12	1-216-295-00	CONDUCTOR, CHIP
CJ13	1-216-295-00	CONDUCTOR, CHIP
CJ14	1-216-295-00	CONDUCTOR, CHIP
CJ15	1-216-295-00	CONDUCTOR, CHIP
CJ16	1-216-295-00	CONDUCTOR, CHIP
CJ17	1-216-295-00	CONDUCTOR, CHIP
CJ18	1-216-295-00	CONDUCTOR, CHIP
CJ19	1-216-295-00	CONDUCTOR, CHIP
CJ20	1-216-295-00	CONDUCTOR, CHIP
CJ21	1-216-295-00	CONDUCTOR, CHIP
CJ22	1-216-295-00	CONDUCTOR, CHIP
CJ23	1-216-295-00	CONDUCTOR, CHIP
CJ24	1-216-295-00	CONDUCTOR, CHIP
CJ25	1-216-295-00	CONDUCTOR, CHIP
CJ26	1-216-295-00	CONDUCTOR, CHIP
CJ27	1-216-295-00	CONDUCTOR, CHIP
CJ28	1-216-295-00	CONDUCTOR, CHIP
CJ29	1-216-295-00	CONDUCTOR, CHIP
CJ30	1-216-295-00	CONDUCTOR, CHIP
CJ31	1-216-295-00	CONDUCTOR, CHIP
CJ32	1-216-295-00	CONDUCTOR, CHIP
CJ33	1-216-295-00	CONDUCTOR, CHIP
CJ34	1-216-295-00	CONDUCTOR, CHIP
CJ35	1-216-295-00	CONDUCTOR, CHIP
CJ36	1-216-295-00	CONDUCTOR, CHIP
CJ37	1-216-295-00	CONDUCTOR, CHIP
CJ39	1-216-295-00	CONDUCTOR, CHIP
CJ40	1-216-295-00	CONDUCTOR, CHIP
CJ42	1-216-295-00	CONDUCTOR, CHIP
CJ43	1-216-295-00	CONDUCTOR, CHIP
CJ44	1-216-295-00	CONDUCTOR, CHIP
CJ45	1-216-295-00	CONDUCTOR, CHIP
CJ46	1-216-295-00	CONDUCTOR, CHIP

D

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The componants identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
CJ47	1-216-295-00	CONDUCTOR, CHIP	
CJ48	1-216-295-00	CONDUCTOR, CHIP	
CJ49	1-216-295-00	CONDUCTOR, CHIP	
CJ50	1-216-295-00	CONDUCTOR, CHIP	
CJ51	1-216-295-00	CONDUCTOR, CHIP	
CJ52	1-216-295-00	CONDUCTOR, CHIP	
CJ53	1-216-295-00	CONDUCTOR, CHIP	
CJ54	1-216-295-00	CONDUCTOR, CHIP	
CJ56	1-216-295-00	CONDUCTOR, CHIP	
CJ57	1-216-295-00	CONDUCTOR, CHIP	
CJ58	1-216-295-00	CONDUCTOR, CHIP	
CJ59	1-216-295-00	CONDUCTOR, CHIP	
CJ60	1-216-295-00	CONDUCTOR, CHIP	
CJ62	1-216-295-00	CONDUCTOR, CHIP	
CJ63	1-216-295-00	CONDUCTOR, CHIP	
CJ64	1-216-295-00	CONDUCTOR, CHIP	
		<CONNECTOR>	
CN1509	*1-564-506-11	PLUG, CONNECTOR 3P	
CN1513	*1-564-506-11	PLUG, CONNECTOR 3P	
CN1612	*1-564-507-11	PLUG, CONNECTOR 4P	
CN1642	*1-564-507-11	PLUG, CONNECTOR 4P	
CN1672	*1-564-507-11	PLUG, CONNECTOR 4P	
CN1716	*1-564-507-11	PLUG, CONNECTOR 4P	
CN1756	*1-564-508-11	PLUG, CONNECTOR 5P	
CN1757	*1-564-515-11	PLUG, CONNECTOR 12P	
		<DIODE>	
D1501	8-719-908-03	DIODE GP08D	
D1502	8-719-109-89	DIODE RD5.6ESB2	
D1503	8-719-971-20	DIODE ERC38-06	
D1505	8-719-109-89	DIODE RD5.6ESB2	
D1551	8-719-109-71	DIODE RD3.9ESB1	
D1552	8-719-991-33	DIODE 1SS133T-77	
D1553	8-719-991-33	DIODE 1SS133T-77	
D1601	8-719-908-03	DIODE GP08D	
D1602	8-719-908-03	DIODE GP08D	
D1603	8-719-908-03	DIODE GP08D	
D1604	8-719-908-03	DIODE GP08D	
D1803	8-719-991-33	DIODE 1SS133T-77	
D1827	8-719-982-03	DIODE MTZJ-3.6A	
D1931	8-719-924-16	DIODE MTZJ-T-77-24	
D1932	8-719-924-16	DIODE MTZJ-T-77-24	
D1934	8-719-924-16	DIODE MTZJ-T-77-24	
D1935	8-719-924-16	DIODE MTZJ-T-77-24	
D1936	8-719-924-16	DIODE MTZJ-T-77-24	
D1937	8-719-924-16	DIODE MTZJ-T-77-24	
D1942	8-719-924-16	DIODE MTZJ-T-77-24	
D1945	8-719-924-16	DIODE MTZJ-T-77-24	
D1946	8-719-924-16	DIODE MTZJ-T-77-24	
D1947	8-719-924-16	DIODE MTZJ-T-77-24	
D1948	8-719-921-86	DIODE MTZJ-13	
D1949	8-719-924-16	DIODE MTZJ-T-77-24	
D1951	8-719-921-86	DIODE MTZJ-13	
D1953	8-719-921-86	DIODE MTZJ-13	
D1954	8-719-921-86	DIODE MTZJ-13	
		<FUSE>	
F1601	⚠1-532-745-11	FUSE, GLASS TUBE 3.15A/125V	
	1-533-223-11	CLIP, FUSE ; F1601	
F1602	⚠1-532-745-11	FUSE, GLASS TUBE 3.15A/125V	
	1-533-223-11	CLIP, FUSE ; F1602	
		<IC>	
IC1501	8-759-192-71	IC STV9379	

REF. NO.	PART NO.	DESCRIPTION	REMARK
IC1601	8-749-010-88	IC STK392-010	
IC1602	8-749-010-88	IC STK392-010	
IC1701	8-752-861-57	IC CXP85112B-613S	
IC1702	8-759-041-54	IC MN1382S	
IC1801	8-759-327-52	IC PM0002B	
IC1802	8-759-327-51	IC PA0053B	
IC1803	8-759-012-67	IC MC7905CT	
IC1804	8-759-231-53	IC TA7805S	
IC1805	8-759-327-52	IC PM0002B	
IC1806	8-759-327-51	IC PA0053B	
IC1807	8-759-929-65	IC LM7912CT	
IC1808	8-759-231-58	IC TA7812S	
IC1809	8-759-327-52	IC PM0002B	
IC1931	8-759-711-28	IC NJM2058D	
IC1932	8-759-711-28	IC NJM2058D	
		<COIL>	
L1501	1-412-533-21	INDUCTOR 47UH	
L1502	1-412-533-21	INDUCTOR 47UH	
L1503	1-412-524-11	INDUCTOR 8.2UH	
L1515	1-410-470-11	INDUCTOR 10UH	
L1516	1-410-482-31	INDUCTOR 100UH	
L1701	1-410-470-11	INDUCTOR 10UH	
L1801	1-406-975-21	COIL, CHOKE 47UH	
L1802	1-406-975-21	COIL, CHOKE 47UH	
		<TRANSISTOR>	
Q1501	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q1502	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q1551	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1552	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q1701	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q1801	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q1802	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1804	8-729-422-27	TRANSISTOR 2SD601A-Q	

<RESISTOR>

REF. NO.	PART NO.	DESCRIPTION				REMARK
R1501	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1502	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R1503	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R1504	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1505	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1506	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1507	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R1508	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1509	1-249-383-11	CARBON	1.5	5%	1/4W	F
R1510	1-214-661-21	METAL	1.5	1%	1/4W	
R1512	1-215-912-11	METAL OXIDE	150	5%	3W	F
R1514	1-216-635-11	METAL CHIP	220	0.50%	1/10W	
R1515	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1516	1-214-661-21	METAL	1.5	1%	1/4W	
R1517	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R1518	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R1519	1-249-377-11	CARBON	0.47	5%	1/4W	F
R1520	1-249-377-11	CARBON	0.47	5%	1/4W	F
R1521	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1522	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1523	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1551	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1552	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R1553	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1554	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1559	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1562	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1603	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R1604	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	

REF. NO.	PART NO.	DESCRIPTION				REMARK
R1605	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R1606	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R1607	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R1608	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R1610	1-214-729-00	METAL	1K	1%	1/4W	
R1612	1-214-729-00	METAL	1K	1%	1/4W	
R1613	1-214-673-00	METAL	4.7	1%	1/4W	
R1615	1-214-673-00	METAL	4.7	1%	1/4W	
R1616	1-214-673-00	METAL	4.7	1%	1/4W	
R1618	1-214-673-00	METAL	4.7	1%	1/4W	
R1619	1-214-673-00	METAL	4.7	1%	1/4W	
R1620	1-214-673-00	METAL	4.7	1%	1/4W	
R1621	1-214-673-00	METAL	4.7	1%	1/4W	
R1622	1-214-673-00	METAL	4.7	1%	1/4W	
R1623	1-214-729-00	METAL	1K	1%	1/4W	
R1624	1-214-729-00	METAL	1K	1%	1/4W	
R1625	1-214-673-00	METAL	4.7	1%	1/4W	
R1626	1-214-673-00	METAL	4.7	1%	1/4W	
R1627	1-214-673-00	METAL	4.7	1%	1/4W	
R1628	1-214-673-00	METAL	4.7	1%	1/4W	
R1629	1-214-673-00	METAL	4.7	1%	1/4W	
R1630	1-214-673-00	METAL	4.7	1%	1/4W	
R1631	1-214-729-00	METAL	1K	1%	1/4W	
R1632	1-214-673-00	METAL	4.7	1%	1/4W	
R1633	1-214-673-00	METAL	4.7	1%	1/4W	
R1634	1-214-729-00	METAL	1K	1%	1/4W	
R1635	1-214-673-00	METAL	4.7	1%	1/4W	
R1636	1-214-673-00	METAL	4.7	1%	1/4W	
R1637	1-214-673-00	METAL	4.7	1%	1/4W	
R1638	1-214-673-00	METAL	4.7	1%	1/4W	
R1639	1-214-673-00	METAL	4.7	1%	1/4W	
R1640	1-214-673-00	METAL	4.7	1%	1/4W	
R1641	1-214-673-00	METAL	4.7	1%	1/4W	
R1642	1-214-673-00	METAL	4.7	1%	1/4W	
R1717	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1721	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1737	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1740	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1748	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1749	1-216-295-00	CONDUCTOR, CHIP				
R1751	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1752	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1753	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1760	1-216-295-00	CONDUCTOR, CHIP				
R1788	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1801	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1802	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1804	1-216-295-00	CONDUCTOR, CHIP				
R1806	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1807	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1808	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1809	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1810	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1811	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1812	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1813	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1815	1-218-762-11	METAL CHIP	270K	0.50%	1/10W	
R1816	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1817	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1818	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1819	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1820	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1821	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1824	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1825	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1826	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1827	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1828	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1829	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1830	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1831	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1832	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R1833	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1834	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1835	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1836	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1837	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1838	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1839	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1840	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1841	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1842	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1843	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1844	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1846	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W	
R1847	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1849	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1850	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1851	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R1852	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1853	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1854	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1855	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1856	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1857	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1858	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1859	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1860	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1861	1-216-473-11	METAL OXIDE	56	5%	3W	F
R1862	1-216-473-11	METAL OXIDE	56	5%	3W	F
R1863	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1864	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1865	1-216-473-11	METAL OXIDE	56	5%	3W	F
R1866	1-216-473-11	METAL OXIDE	56	5%	3W	F
R1867	1-218-761-11	METAL CHIP	240K	0.50%	1/10W	
R1868	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1869	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1870	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1871	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1872	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1873	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1874	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1875	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R1876	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1877	1-216-695-11	METAL CHIP	68K	0.50%	1/10W	
R1878	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1879	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1880	1-216-678-11	METAL CHIP	13K	0.50%	1/10W	
R1881	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R1883	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R1884	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1885	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1886	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1887	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1888	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1889	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1890	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W	
R1891	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1892	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1893	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1894	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1895	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R1896	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1897	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1898	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1899	1-216-097-00	METAL GLAZE	100K	5%	1/10W	

REF. NO.	PART NO.	DESCRIPTION			REMARK	
R1900	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1901	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1902	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1903	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1904	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1905	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1906	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	
R1908	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1909	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1910	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1911	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1912	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1913	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1914	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1915	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1916	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1917	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1918	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1919	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1920	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1922	1-218-758-11	METAL CHIP	180K	0.50%	1/10W	
R1923	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R1925	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1926	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1927	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W	
R1928	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1929	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1931	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R1935	1-218-766-11	METAL CHIP	390K	0.50%	1/10W	
R1937	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1938	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R1940	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R1941	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1942	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1944	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1947	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1948	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R1949	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R1950	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R1951	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1952	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1954	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1955	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1956	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R1957	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R1958	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R1959	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1960	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1961	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1962	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1963	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1964	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1965	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1966	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1967	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1970	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R1981	1-216-473-11	METAL OXIDE	56	5%	3W	F
R1982	1-216-473-11	METAL OXIDE	56	5%	3W	F
R1985	1-216-025-00	METAL GLAZE	100	5%	1/10W	

<THERMISTOR>

TH1501	1-800-193-00	THERMISTOR
TH1801	8-719-991-33	DIODE 1SS133T-77

<CRYSTAL>

X1701	1-579-917-11	VIBRATOR, CRYSTAL

REF. NO.	PART NO.	DESCRIPTION			REMARK

****

* A-1646-135-A HA BOARD, COMPLETE
****

<CAPACITOR>

C3033	1-101-005-00	CERAMIC	0.022MF		50V
C3034	1-101-005-00	CERAMIC	0.022MF		50V
C3035	1-126-967-11	ELECT	47MF	20%	16V

<CONNECTOR>

CN3001	* 1-564-526-11	PLUG, CONNECTOR 11P
CN3005	* 1-564-519-11	PLUG, CONNECTOR 4P

<JACK>

J3001	1-764-073-11	TERMINAL BLOCK, S 4P
J3002	1-691-293-11	JACK

<COIL>

L3001	1-408-421-00	INDUCTOR 100UH
L3002	1-408-421-00	INDUCTOR 100UH

<RESISTOR>

R3007	1-249-425-11	CARBON	4.7K	5%	1/4W
R3008	1-249-422-11	CARBON	2.7K	5%	1/4W
R3009	1-249-419-11	CARBON	1.5K	5%	1/4W
R3010	1-249-417-11	CARBON	1K	5%	1/4W
R3011	1-249-415-11	CARBON	680	5%	1/4W
R3012	1-249-419-11	CARBON	1.5K	5%	1/4W
R3013	1-249-419-11	CARBON	1.5K	5%	1/4W
R3036	1-249-409-11	CARBON	220	5%	1/4W
R3037	1-249-409-11	CARBON	220	5%	1/4W
R3038	1-249-409-11	CARBON	220	5%	1/4W
R3039	1-249-409-11	CARBON	220	5%	1/4W

<SWITCH>

S3009	1-571-731-11	SWITCH, TACTIL
S3010	1-571-731-11	SWITCH, TACTIL
S3011	1-571-731-11	SWITCH, TACTIL
S3012	1-571-731-11	SWITCH, TACTIL
S3013	1-571-731-11	SWITCH, TACTIL

****

* A-1646-136-A HB BOARD, COMPLETE
****

	4-033-777-01	HOLDER, LED

<CAPACITOR>

C3012	1-126-157-11	ELECT	10MF	20%	16V

<CONNECTOR>

CN3002	* 1-564-523-11	PLUG, CONNECTOR 8P

<DIODE>

D3002	8-719-812-41	DIODE TLR124
D3003	8-719-812-41	DIODE TLR124
D3004	8-719-812-41	DIODE TLR124

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<IC>			
IC3001	8-741-780-51	IC SBX1780-51			
		<RESISTOR>			
R3001	1-249-413-11	CARBON	470	5%	1/4W
R3002	1-249-425-11	CARBON	4.7K	5%	1/4W
R3003	1-249-422-11	CARBON	2.7K	5%	1/4W
R3004	1-249-419-11	CARBON	1.5K	5%	1/4W
R3005	1-249-417-11	CARBON	1K	5%	1/4W
R3006	1-249-415-11	CARBON	680	5%	1/4W
		<SWITCH>			
S3004	1-571-731-11	SWITCH, TACTIL			
S3005	1-571-731-11	SWITCH, TACTIL			
S3006	1-571-731-11	SWITCH, TACTIL			
S3007	1-571-731-11	SWITCH, TACTIL			
S3008	1-571-731-11	SWITCH, TACTIL			

****

* A-1646-137-A HC BOARD, COMPLETE
****

REF. NO.	PART NO.	DESCRIPTION
		<CONNECTOR>
CN3061	* 1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P
CN3062	* 1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P
		<SWITCH>
S3061	⚠ 1-692-293-11	SWITCH, PUSH (AC POWER)(1 KEY)

****

* A-1647-004-A U BOARD, COMPLETE
****

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C2001	1-126-935-11	ELECT	470MF	20%	16V
C2002	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C2007	1-126-967-11	ELECT	47MF	20%	16V
C2008	1-126-965-11	ELECT	22MF	20%	50V
C2009	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C2010	1-126-960-11	ELECT	1MF	20%	50V
C2011	1-126-960-11	ELECT	1MF	20%	50V
C2012	1-126-933-11	ELECT	100MF	20%	16V
C2013	1-126-933-11	ELECT	100MF	20%	16V
C2014	1-101-004-00	CERAMIC	0.01MF		50V
C2015	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2016	1-126-967-11	ELECT	47MF	20%	16V
C2019	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2020	1-126-967-11	ELECT	47MF	20%	16V
C2021	1-126-965-11	ELECT	22MF	20%	50V
C2022	1-126-960-11	ELECT	1MF	20%	50V
C2023	1-101-004-00	CERAMIC	0.01MF		50V
C2027	1-126-960-11	ELECT	1MF	20%	50V
C2029	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C2030	1-126-965-11	ELECT	22MF	20%	50V
C2031	1-126-967-11	ELECT	47MF	20%	16V
C2032	1-101-004-00	CERAMIC	0.01MF		50V
C2033	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2034	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2036	1-126-967-11	ELECT	47MF	20%	16V
C2041	1-126-965-11	ELECT	22MF	20%	50V
C2042	1-126-967-11	ELECT	47MF	20%	16V
C2044	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C2045	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C2048	1-126-960-11	ELECT	1MF	20%	50V
C2049	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C2051	1-126-960-11	ELECT	1MF	20%	50V
C2062	1-126-933-11	ELECT	100MF	20%	16V
C2067	1-101-004-00	CERAMIC	0.01MF		50V
C2070	1-126-933-11	ELECT	100MF	20%	16V
C2071	1-126-960-11	ELECT	1MF	20%	50V
C2073	1-126-960-11	ELECT	1MF	20%	50V
C2074	1-126-935-11	ELECT	470MF	20%	16V
C2075	1-126-960-11	ELECT	1MF	20%	50V
C2076	1-126-935-11	ELECT	470MF	20%	16V
C2077	1-126-967-11	ELECT	47MF	20%	16V
C2078	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2079	1-126-960-11	ELECT	1MF	20%	50V
C2081	1-126-967-11	ELECT	47MF	20%	16V
C2082	1-126-967-11	ELECT	47MF	20%	16V
C2083	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2084	1-126-960-11	ELECT	1MF	20%	50V
C2085	1-126-933-11	ELECT	100MF	20%	16V
C2086	1-126-967-11	ELECT	47MF	20%	16V
C2100	1-126-959-11	ELECT	0.47MF	20%	50V
C2102	1-126-959-11	ELECT	0.47MF	20%	50V
		<CONNECTOR>			
CN2001	* 1-566-641-11	CONNECTOR, HINGE (TAB) 18P			
CN2002	* 1-566-641-11	CONNECTOR, HINGE (TAB) 18P			
CN2003	* 1-564-526-11	PLUG, CONNECTOR 11P			
CN2004	* 1-564-519-11	PLUG, CONNECTOR 4P			
CN2008	* 1-564-519-11	PLUG, CONNECTOR 4P			
		<DIODE>			
D2001	8-719-110-12	DIODE RD9.1ESB1			
D2002	8-719-110-12	DIODE RD9.1ESB1			
D2003	8-719-110-12	DIODE RD9.1ESB1			
D2004	8-719-110-12	DIODE RD9.1ESB1			
D2005	8-719-110-12	DIODE RD9.1ESB1			
D2006	8-719-110-12	DIODE RD9.1ESB1			
D2007	8-719-110-12	DIODE RD9.1ESB1			
D2008	8-719-110-12	DIODE RD9.1ESB1			
D2009	8-719-110-12	DIODE RD9.1ESB1			
D2010	8-719-110-12	DIODE RD9.1ESB1			
D2011	8-719-110-12	DIODE RD9.1ESB1			
D2012	8-719-110-12	DIODE RD9.1ESB1			
D2013	8-719-110-12	DIODE RD9.1ESB1			
D2014	8-719-110-12	DIODE RD9.1ESB1			
D2015	8-719-110-12	DIODE RD9.1ESB1			
D2016	8-719-110-12	DIODE RD9.1ESB1			
D2017	8-719-110-12	DIODE RD9.1ESB1			
D2018	8-719-110-12	DIODE RD9.1ESB1			
D2019	8-719-110-12	DIODE RD9.1ESB1			
D2020	8-719-110-12	DIODE RD9.1ESB1			
D2021	8-719-110-12	DIODE RD9.1ESB1			
D2022	8-719-110-12	DIODE RD9.1ESB1			
D2023	8-719-110-12	DIODE RD9.1ESB1			
D2024	8-719-800-76	DIODE 1SS226			
D2027	8-719-110-12	DIODE RD9.1ESB1			
D2028	8-719-110-12	DIODE RD9.1ESB1			
D2030	8-719-110-12	DIODE RD9.1ESB1			
D2031	8-719-110-12	DIODE RD9.1ESB1			
D2032	8-719-110-12	DIODE RD9.1ESB1			
D2033	8-719-110-12	DIODE RD9.1ESB1			
D2034	8-719-110-12	DIODE RD9.1ESB1			
D2035	8-719-110-12	DIODE RD9.1ESB1			

U

REF. NO.	PART NO.	DESCRIPTION		REMARK
D2036	8-719-403-00	DIODE MA3240-TX		
D2037	8-719-403-00	DIODE MA3240-TX		
D2038	8-719-110-12	DIODE RD9.1ESB1		
D2039	8-719-110-12	DIODE RD9.1ESB1		
		<IC>		
IC2001	8-752-068-46	IC CXA1855S		
		<JACK>		
J2001	1-573-967-12	BLOCK, (S) TERMINAL		
J2002	1-573-968-11	BLOCK, (S) TERMINAL		
J2003	1-565-838-11	JACK BLOCK, PIN 2P		
		<CHIP CONDUCTOR>		
JR001	1-216-295-91	CONDUCTOR, CHIP		
JR002	1-216-295-91	CONDUCTOR, CHIP		
		<COIL>		
L2001	1-412-537-31	INDUCTOR 100UH		
		<TRANSISTOR>		
Q2006	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2007	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2009	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2011	8-729-216-22	TRANSISTOR 2SA1162-G		
Q2014	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2016	8-729-216-22	TRANSISTOR 2SA1162-G		
Q2022	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2027	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2028	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2029	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2030	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2031	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2032	8-729-216-22	TRANSISTOR 2SA1162-G		
Q2033	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2034	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2035	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2036	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2038	8-729-216-22	TRANSISTOR 2SA1162-G		
Q2039	8-729-027-23	TRANSISTOR DTA114EKA-T146		
Q2040	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2041	8-729-027-23	TRANSISTOR DTA114EKA-T146		
Q2043	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
		<RESISTOR>		
R2001	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2002	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2003	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2004	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2005	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2006	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2007	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W
R2009	1-247-807-31	CARBON 100	5%	1/4W
R2010	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2012	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2013	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2014	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2015	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W
R2016	1-216-295-91	CONDUCTOR, CHIP		
R2019	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2020	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2023	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2024	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2025	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2028	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W
R2029	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R2030	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W
R2032	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R2033	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2035	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2036	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2037	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2038	1-216-101-00	METAL GLAZE 150K	5%	1/10W
R2039	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R2041	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2044	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2045	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2046	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R2047	1-216-033-00	METAL GLAZE 220	5%	1/10W
R2049	1-216-101-00	METAL GLAZE 150K	5%	1/10W
R2050	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R2051	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2052	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2053	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2056	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2057	1-216-033-00	METAL GLAZE 220	5%	1/10W
R2058	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2060	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R2061	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W
R2064	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2066	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R2073	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2074	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R2078	1-216-101-00	METAL GLAZE 150K	5%	1/10W
R2079	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R2080	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W
R2083	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R2087	1-216-101-00	METAL GLAZE 150K	5%	1/10W
R2088	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R2089	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R2090	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2092	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2096	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2097	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W
R2104	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W
R2114	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R2116	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R2119	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2122	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2123	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2125	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2126	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2127	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2128	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2129	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2130	1-216-021-00	METAL GLAZE 68	5%	1/10W
R2131	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2132	1-216-021-00	METAL GLAZE 68	5%	1/10W
R2133	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2134	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2135	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2136	1-216-033-00	METAL GLAZE 220	5%	1/10W
R2137	1-216-025-91	METAL GLAZE 100	5%	1/10W
R2138	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2139	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2140	1-216-174-00	METAL GLAZE 100	5%	1/8W
R2141	1-216-184-00	METAL GLAZE 270	5%	1/8W
R2142	1-216-033-00	METAL GLAZE 220	5%	1/10W
R2143	1-216-021-00	METAL GLAZE 68	5%	1/10W
R2144	1-216-113-00	METAL GLAZE 470K	5%	1/10W

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF. NO.	PART NO.	DESCRIPTION		REMARK
R2145	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2146	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R2147	1-216-176-11	METAL GLAZE 120	5%	1/8W
R2148	1-216-295-91	CONDUCTOR, CHIP		
R2149	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2150	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2151	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2152	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R2153	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2154	1-216-041-00	METAL GLAZE 470	5%	1/10W
R2155	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
R2156	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2157	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2158	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2159	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2162	1-216-083-00	METAL GLAZE 27K	5%	1/10W
R2164	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R2165	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R2166	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2167	1-216-041-00	METAL GLAZE 470	5%	1/10W
R2173	1-216-023-00	METAL GLAZE 82	5%	1/10W
R2179	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R2180	1-216-022-00	METAL GLAZE 75	5%	1/10W
R2181	1-216-041-00	METAL GLAZE 470	5%	1/10W
R2189	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2190	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2195	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R2196	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2218	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2219	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2220	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2221	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R2222	1-216-022-00	METAL GLAZE 75	5%	1/10W

<SWITCH>

REF. NO.	PART NO.	DESCRIPTION
S2001	1-572-084-11	SWITCH, SLIDE

<TERMINAL BOARD>

REF. NO.	PART NO.	DESCRIPTION
TB2001	1-537-712-11	TERMINAL, PUSH

* * *

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION	REMARK
	⚠1-223-925-11	RESISTOR ASSY (HIGH-VOLTAGE)	
	1-251-249-11	DISTRIBUTOR, RF	
	⚠1-452-790-11	NECK ASSY	
	⚠1-452-790-21	NECK ASSY	
	1-505-703-11	SPEAKER (5CM)	
	1-505-704-11	SPEAKER (16CM)	
	*1-555-400-00	CABLE, PIN	
	1-569-008-11	ADAPTOR, CONVERSION 2P (KP-E61MH11(ME)/KP-E61MN11)	
	⚠1-574-358-11	CORD, POWER (WITH CONNECTOR) 7.5A/250V (KP-E61SN11)	
	⚠1-690-270-21	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KP-E61MH11(ME)/KP-E61MN11)	
	⚠1-769-609-21	CORD, POWER (WITH CONNECTOR) (KP-E61MH11(HK))	
	1-900-902-58	CONNECTOR ASSY (KP-E61MH11(ME)/KP-E61MN11/KP-E61SN11)	
	1-900-902-67	CONNECTOR ASSY (KP-E61MH11(ME)/KP-E61MN11/KP-E61SN11)	
	1-900-902-68	CONNECTOR ASSY (KP-E61MH11(ME)/KP-E61MN11/KP-E61SN11)	
	1-900-902-69	CONNECTOR ASSY (KP-E61MH11(ME)/KP-E61MN11/KP-E61SN11)	
	⚠8-451-463-12	DEFLECTION YOKE Y829PA2N (R) (G)	
	⚠8-451-463-22	DEFLECTION YOKE Y829PA2N2 (B)	
	⚠8-598-955-11	BLOCK ASSY, HIGH-VOLTAGE	
	⚠8-733-507-05	PICTURE TUBE 07MAC4(B)	
	⚠8-733-508-05	PICTURE TUBE 07MAC4(R)	
	⚠8-733-509-05	PICTURE TUBE 07MAC2 (G)	

* * *

ACCESSORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION
1-569-008-11	ADAPTOR, CONVERSION 2P (KP-E61MH11(ME)/KP-E61MN11)
3-858-447-11	MANUAL, INSTRUCTION
*4-030-895-01	JOINT
*4-055-673-01	SHEET, PROTECTION
4-058-951-01	CUSHION (UPPER) (ASSY) (KP-E61MH11(HK))
4-058-952-01	CUSHION (LOWER) (ASSY) (KP-E61MH11(HK))
4-058-953-01	CUSHION (LEFT UPPER) (KP-E61MH11(HK))
4-058-954-01	CUSHION (RIGHT UPPER) (KP-E61MH11(HK))
4-058-955-01	CUSHION (LEFT LOWER) (KP-E61MH11(HK))
4-058-956-01	CUSHION (RIGHT LOWER) (KP-E61MH11(HK))
4-058-957-01	INDIVIDUAL CARTON (KP-E61MH11(HK))
4-058-958-01	TRAY (KP-E61MH11(HK))
4-058-959-01	BOARD, TOP (KP-E61MH11(HK))
4-058-960-01	BOARD, BOTTOM (KP-E61MH11(HK))
*4-059-461-01	BAG, PROTECTION

REMOTE COMMANDER

PART NO.	DESCRIPTION
1-473-841-11	REMOTE COMMANDER (RM-901)
9-905-614-01	POCKET, COVER (FOR RM-901)

KP-E61MH11/E61MN11/E61SN11

RM-901 · RM-901 RM-901

Sony Corporation
Display Company
Quality Assurance Department
Service Promotion Section

English
97FR70199-1
Printed in Belgium

© 1997. 6